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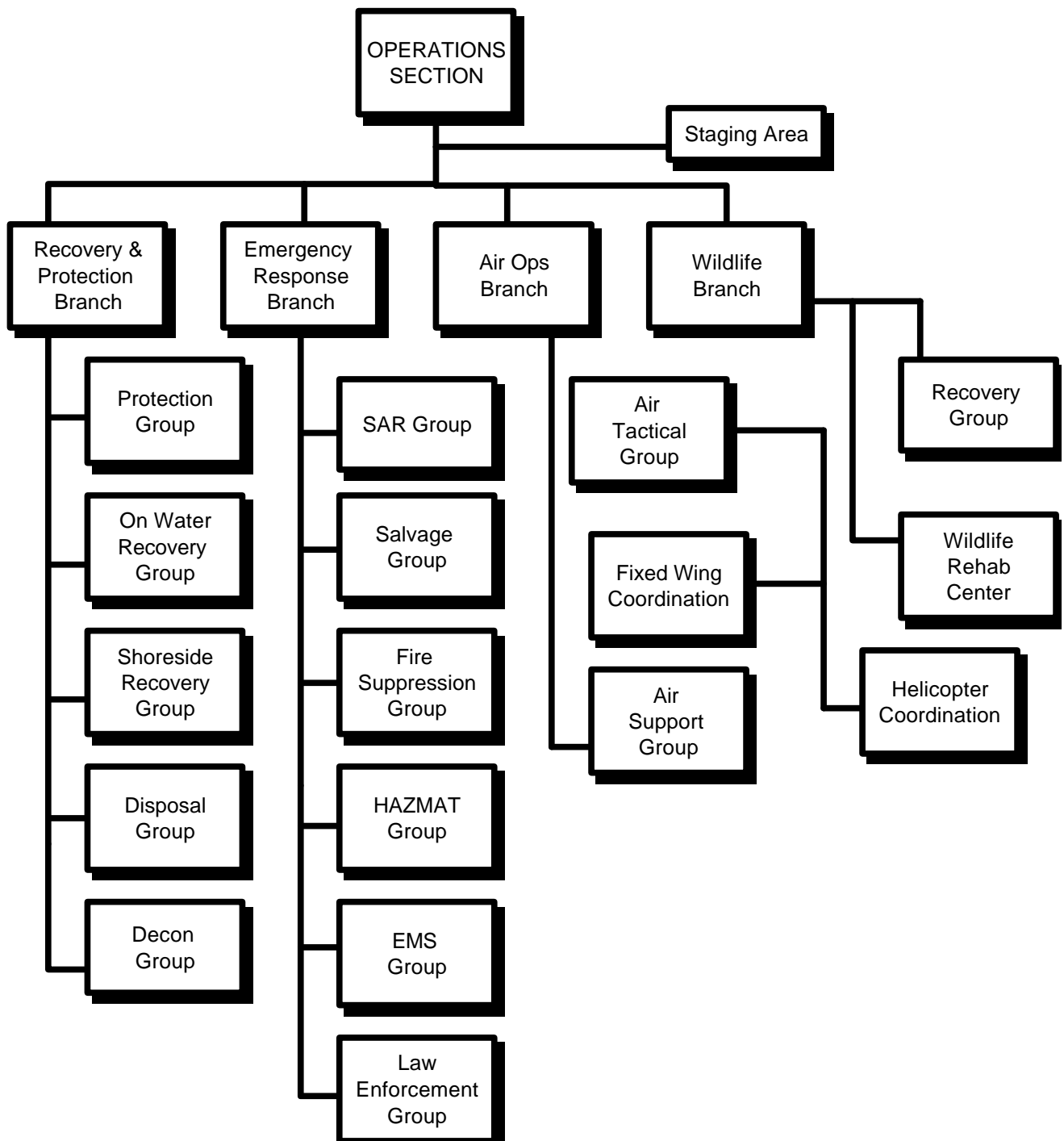
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Charleston Area Committee
C/O Committee Chairman
196 Tradd Street
Charleston, SC 29401

ANNEX E TO THE CHARLESTON OIL AND HAZMAT AREA CONTINGENCY PLAN
OPERATIONS SECTION

The **Operations Section** is responsible for the tactical implementation of all forces used to mitigate the incident. The Operations Section expands to meet the needs of the incident action plan. It is critical that the Planning and Operations Sections have early consultation to ensure the tactical operations envisioned in planning can be implemented based upon existing response resource capabilities and conditions. The Operations Section and each subsection should incorporate the appropriate members from the Unified Command agencies and/or their contractors.

APPENDIX I TO ANNEX E TO CHARLESTON AREA OIL & HAZMAT ACP
OPERATIONS SECTION ORGANIZATION



TAB a TO APPENDIX I TO ANNEX E TO THE CHARLESTON OIL & HAZMAT ACP
OPERATIONS SECTION CHIEF'S RESPONSIBILITIES

The **Operations Section Chief** is responsible for the direction and coordination of all tactical operations. As a part of this overall responsibility the Operations Section shall:

- ◆ Organize and manage the Operations Section branches and units.
- ◆ Assist the Incident Commander in developing tactical objectives for the incident.
- ◆ Assist the Planning Section in defining strategic response goals and tactical operational objectives detailed in the Incident Action Plan.
- ◆ Develop detailed mission assignments, sortie schedules, duty lists, and operational assignments to accomplish the strategic response goals and tactical operational objectives.
- ◆ Brief Operations Section personnel on the result of meetings, contents of incident Action Plans, and other matters related to section operations.
- ◆ Coordinate emergency response operations carried out by third parties, including oil spill cooperatives, response contractors/organizations, specialized service companies, and/or government agencies.
- ◆ Work with Safety Officer to characterize the safety and health implications of an incident and the threat it poses to the health and welfare of people working or living in the vicinity of an incident.
- ◆ If necessary, work with Safety Officer, Procurement Branch Director, and Technical Specialists to identify and obtain the services of skilled contract personnel to conduct air or water dispersion modeling to identify the hazard footprint from an emitted or discharged hazardous material.
- ◆ Obtain regular weather forecasts Environmental Branch Leader and keep Operations Section personnel informed of changing weather conditions.
- ◆ Facilitate the display of information that summarizes the nature and status of field response operations, including:
 - Charts depicting the location of the incident, the location of any spilled or emitted material, trajectory or modeling information, and Division/Group assignments.
 - A status board listing the major equipment and manpower resources assigned to each group.
 - Section organization chart and assignments.
 - The names of Group Supervisors and guidance on how to contract them in the field.
 - Event chronology and attendant reports.

- ◆ Identify additional response resources required or recommend the release of resources to the Unified Command.
- ◆ Evaluate and report to the Unified Command on status of Section's assigned responsibilities, as scheduled.

ENCL i TO TAB a TO APP I TO ANNEX E TO CHARLESTON O&H ACP
EMERGENCY NOTIFICATIONS

1. INITIAL REPORT. Each report of a spill must be captured on a spill report form. A recommended form is included, it should be completely filled out for each report. Some of the information required includes:

- a. Time Report Received
- b. Caller Name, Address, & Phone Number
- c. Vessel/Facility Information
 - (1) Name
 - (2) Type of vessel/facility
 - (3) Nationality (Vessel Only)
 - (4) Location of Incident
 - (5) Time of Incident
 - (6) Type of Incident (Explosion, Grounding, etc.)
 - (7) Pollutant(s)
 - (8) Estimated Amount Spilled
 - (9) Total Potential Amount
 - (10) Weather/Sea Conditions
 - (11) Point of Contact (Responsible Party Name & Phone #)
 - (12) Vessel Agent(s) (Name & Phone #)
- d. Spill Classification

2. NOTIFICATIONS. Upon receipt of a report of a spill or release the appropriate notifications must be made to advise other government agencies which may have an interest in the incident. If the NRC has not been notified, the receiver of the report should encourage the reporting party to make this call, even for reports of mystery sheens and spills.

The Initial Pollution Report Checklist contains a "bare bones" notification listing. If the incident is large or particularly complicated the Emergency Notification List should be used. In either circumstance, the Emergency Notification List contains the contact number for a wide array of agencies, groups, trustees, and organizations that play a role in environmental response. In addition, its use will ensure that those who should be notified are notified.

3. CHRONOLOGICAL LOG. After receiving the report and completing initial notifications a chronological log of events must be started and maintained throughout the incident. Information in this log will be used to develop the POLREPS and any After Action Reports required. It is imperative that the log be thorough and accurate.

MSO CHARLESTON

INITIAL POLLUTION REPORT CHECKLIST

DATE/TIME OF REPORT ____/____/____ RECIEVED BY _____

NRC REPORT NUMBER _____ MC/TK REPORT NUMBER _____

REPORTER (NAME) _____ PHONE NUMBER () _____

ADDRESS _____

=====

DATE/TIME OF OCCURRENCE ____/____/____ WATERWAY _____

SOURCE _____ CAUSE _____

LOCATION _____

MATERIAL SPILLED _____ AMOUNT SPILLED _____

SPILL DIMENSIONS _____

CLEANUP ACTION? **YES / NO** PRODUCT CONTAINED? **YES / NO**

=====

RESPONSIBLE PARTY _____ PHONE NUMBER () _____

VESSEL _____ FLAG _____ O.N. _____

AGENT _____ PHONE NUMBER () _____

QI _____ PHONE NUMBER () _____

=====

DOES CASE MEET CRITERIA OF 46 C.F.R. 4.05? **YES / NO**

(IF YES, CONTACT INVESTIGATIONS DEPT)

| | OIL (gallons) | | HAZMAT |
|--------|----------------|------------------|-----------------------------------------------------|
| | Inland | Coastal | |
| Minor | <1,000 | <10,000 | <RQ |
| Medium | 1,000 - 10,000 | 10,000 - 100,000 | >RQ |
| Major | >10,000 | >100,000 | Substantial Threat or Critical Public Concern |

=====

NOTIFY THE FOLLOWING AS REQUIRED

| TIME | NOTIFIED | WHO | PHONE NUMBER |
|-------|---------------------|-----|--------------------------------------|
| _____ | PortOps Dept Head | | (843) 570-0548 (Bpr) |
| _____ | XO | | 1-800-946-4646 (Bpr) PIN# 6041736 |
| _____ | CO | | 1-800-946-4646 (Bpr) PIN# 6029057 |
| _____ | NRC | | 1-800-424-8802 |
| _____ | SC DHEC | | 1-888-481-0125 |
| _____ | EPA Region IV | | 404-347-4062 |
| _____ | D7 (cc) | | 305-536-5611 |
| _____ | D7 (m) Duty Officer | | 305-536-5651 |

=====

OTHER APPLICABLE INFORMATION

MSO CHARLESTON

EMERGENCY NOTIFICATION LIST

| | | <u>Phone #</u> | <u>Time</u> | <u>Date</u> | <u>Initials</u> |
|-----|---------------------|----------------|-------------|-------------|-----------------|
| [] | CCGD7 (mep)** | (305) 536-5651 | _____ | _____ | _____ |
| [] | CCGD7 (opcen)** | (305) 536-5611 | _____ | _____ | _____ |
| [] | CCGD7 (dl) | (305) 536-5653 | _____ | _____ | _____ |
| [] | NSFCC | (919) 331-6000 | _____ | _____ | _____ |
| [] | GULF STRIKE TEAM | ???????????? | _____ | _____ | _____ |
| [] | LANT PUBLIC AFFAIRS | (212) 668-7114 | _____ | _____ | _____ |
| [] | MLCLANT (fcp) | ???????????? | _____ | _____ | _____ |
| [] | LANT OPCEN (24 hr.) | ???????????? | _____ | _____ | _____ |
| [] | STA. GEORGETOWN | (843) 546-2742 | _____ | _____ | _____ |
| [] | MSO SAVANNAH | (912) 652-4371 | _____ | _____ | _____ |
| [] | MSO WILMINGTON | (919) 343-4882 | _____ | _____ | _____ |
| [] | AIRSTA SAVANNAH | (912) 352-6737 | _____ | _____ | _____ |
| [] | GROUP CHARLESTON | (843) 724-7616 | _____ | _____ | _____ |
| | | 7618 | | | |
| | | 7619 | | | |
| [] | NRC* | (800) 424-8802 | _____ | _____ | _____ |
| | | (202) 267-2675 | _____ | _____ | _____ |

FEDERAL AGENCIES

| | | | | | |
|-----|-----------------------------|----------------|-------------------------|-------|-------|
| [] | U.S. EPA | ???????????? | _____ | _____ | _____ |
| [] | NOAA HAZMAT | (206) 526-6317 | _____ | _____ | _____ |
| | (Seattle, WA) | (24 HR #) | | | |
| [] | NOAA "Trustee Notification" | | (same # as NOAA HAZMAT) | | |
| [] | NOAA SSC | (305) 530-7931 | _____ | _____ | _____ |
| [] | DOI (U.S. FISH & | (803) 727-4707 | _____ | _____ | _____ |
| | WILDLIFE SERVICE) | (843) 795-7729 | _____ | _____ | _____ |
| [] | NATIONAL PARK SER. | (843) 883-3123 | _____ | _____ | _____ |
| | (24 hr) | 1-888-614-0672 | _____ | _____ | _____ |
| [] | U.S. DEPT. OF ENERGY | | | | |
| | (24 hr.) | (843) 725-3333 | _____ | _____ | _____ |
| [] | U.S. DEPT OF JUSTICE | (843) 727-4583 | _____ | _____ | _____ |
| | (Pager) | (843) 748-6645 | _____ | _____ | _____ |
| [] | NUC REG COM | ???????????? | _____ | _____ | _____ |
| [] | DOC (NMFS) | ???????????? | _____ | _____ | _____ |
| [] | U.S. ARMY CORPS | ???????????? | _____ | _____ | _____ |
| [] | FEMA(24 hr.) | (202) 646-2400 | _____ | _____ | _____ |
| [] | U.S. ARMY | (843) 751-7640 | _____ | _____ | _____ |
| [] | U.S. FOREST SERVICE | ???????????? | _____ | _____ | _____ |
| | (WAMBAH AREA) | (843) 887-3257 | _____ | _____ | _____ |

STATE AGENCIES

| | | | | | |
|-----|---------------------------------------|----------------|-------|-------|-------|
| [] | SCDHEC CHARLESTON * | (843) 740-1590 | _____ | _____ | _____ |
| | (24 hr)COLUMBIA | (888) 481-0125 | | | |
| [] | SCDNR | (843) 762-5068 | _____ | _____ | _____ |
| | (24 hr.) | (800) 922-5431 | _____ | _____ | _____ |
| [] | SC STATE HWY. PATROL | (843) 740-1660 | _____ | _____ | _____ |
| [] | SC DEPT OF HIGHWAY & PUBLIC TRANS. | (803) 740-1655 | _____ | _____ | _____ |
| [] | SC COASTAL COUNCIL | (803) 744-5838 | _____ | _____ | _____ |
| [] | SC STATE PORTS AUTH. | (803) 577-8659 | _____ | _____ | _____ |
| [] | SC STATE GOVERNOR | (803) 734-0425 | _____ | _____ | _____ |
| [] | SC STATE PARKS | (803) 734-0165 | _____ | _____ | _____ |

LOCAL EMERGENCY PREPAREDNESS DIVISIONS

| | | | | | |
|-----|---------------------|----------------|-------|-------|-------|
| [] | BEAUFORT COUNTY EPD | (843) 524-2777 | _____ | _____ | _____ |
| [] | BERKLEY COUNTY EPD | (843) 761-9000 | _____ | _____ | _____ |
| [] | CHASTN COUNTY EPD | (843) 554-4700 | _____ | _____ | _____ |
| [] | COLLETON COUNTY EPD | (843) 549-2529 | _____ | _____ | _____ |
| [] | DORCHSTR COUNTY EPD | (843) 873-5111 | _____ | _____ | _____ |
| [] | GEORGTWN COUNTY EPD | (843) 527-7820 | _____ | _____ | _____ |
| [] | HORRY COUNTY EPD | (843) 248-1300 | _____ | _____ | _____ |

****FOR FIRE, POLICE, EMS, ETC. SEE APPROPRIATE SECTION OF ANNEX F**

ENVIRONMENTAL INTEREST GROUPS

| | | | | | |
|-----|--------------------------------------------------|----------------------------------|-------|-------|-------|
| [] | AUDUBON SOCIETY | (843) 577-7100 | _____ | _____ | _____ |
| [] | SIERRA CLUB - | (843) 556-3620 | _____ | _____ | _____ |
| | LUNZ CHAPTER | (843) 769-6899 | _____ | _____ | _____ |
| [] | SC COASTAL CONSERVATION LEAGUE | (843) 723-7689 (843) 723-8035 | _____ | _____ | _____ |
| [] | CHARLESTON HARBOR SC SEAGRANT | (843) 727-2078 | _____ | _____ | _____ |
| [] | COOPER RIVER WATER USERS ASSOC. | (843) 797-9073 | _____ | _____ | _____ |
| [] | CONCERNED CITIZENS FOR THE ASHLEY RIVER | (843) 553-9606 | _____ | _____ | _____ |
| [] | SAVE THE WANDO ASSOC | (843) 577-4920 (843) 883-3880 | _____ | _____ | _____ |
| [] | THE STONO RIVER ENVIRONMENT PROTECTION ASSOC. | (843) 762-0274 | _____ | _____ | _____ |

* **Notify on all pollution incidents.**

** **Notify on all actual or potential medium or major pollution incidents.**

TAB b TO APPENDIX I TO ANNEX E TO THE CHARLESTON OIL & HAZMAT ACP
STAGING AREA

The **Staging Area Manager**, under the Operations Section Chief, is responsible for managing all activities within the designated staging areas. The staging areas hold equipment and supplies in a ready status for deployment, backup, or demobilization. The Staging Area Manager shall:

- ◆ Review common responsibilities.
- ◆ Identify staging sites required.
- ◆ Identify logistical needs required.
- ◆ Prepare designated staging sites and facilitate the movement of response resources into operation.
- ◆ Identify additional resources and logistics needs.
- ◆ Maintain status log of equipment at each staging site. Log should include kind and type of equipment, amount available, and whether the equipment is assigned, available, or out of service.
- ◆ Report on the status of staging, as scheduled.
- ◆ Maintain Unit Activity Log (ICS 214).

TAB c TO APPENDIX I TO ANNEX E TO THE CHARLESTON OIL & HAZMAT ACP
RECOVERY AND PROTECTION BRANCH

The **Recovery and Protection Branch** is responsible for overseeing and implementing the protection, containment, and cleanup activities established in the Incident Action Plan. The Recovery and Protection Branch Director reports to the Operations Section Chief. The Recovery and Protection Branch Director shall:

- ◆ Review Common Responsibilities.
- ◆ Participate in planning meetings as required.
- ◆ Develop operations portion of the Incident Action Plan.
- ◆ Brief and assign operations personnel in accordance with the Incident Action Plan.
- ◆ Supervise operations.
- ◆ Determine resource needs.
- ◆ Review information about special activities, events, and occurrences to Operations Section Chief.
- ◆ Maintain Unit/Activity Log (ICS 214).

ENCL i TO TAB c TO APP I TO ANNEX E TO THE CHARLESTON O&H ACP
PROTECTION GROUP

The **Protection Group** is responsible for the deployment of containment, diversion, and absorbing boom in designated locations. Depending on the size of the incident, the Protection Group may be further divided into teams, task forces, and single resources. The Protection Group Supervisor reports to the Protection Group Supervisor shall:

- ◆ Review Common Responsibilities.
- ◆ Implement Protection Strategies in Incident Action Plan.
- ◆ Direct, coordinate and assess effectiveness of protective actions.
- ◆ Modify protective actions as needed.
- ◆ Brief the Recovery and Protection Branch Director on activities.
- ◆ Maintain Unit/Activity Log (ICS 214).

ENCL ii TO TAB c TO APP I TO ANNEX E TO THE CHARLESTON O&H ACP
WATER RECOVERY GROUP

The **Water Recovery Group** is responsible for maintaining on water oil recovery activities, and enforcing any safety zones in effect. The Water Recovery Group Supervisor reports to the Recovery and Protection Branch Director. The Water Recovery Group Supervisor shall:

- ◆ Review Common Responsibilities.
- ◆ Direct the delivery, deployment, and operation of afloat resources.
- ◆ Control all afloat assets necessary to enforce any safety zones in affect.
- ◆ Provide a field status of skimming operations to the Operations Section Chief.
- ◆ Maintain estimates of product recovered.
- ◆ Identify logistical support needs of skimming operators.
- ◆ Ensure recovery and holding containers operate efficiently.
- ◆ Propose alternate strategies based on field results and conditions.
- ◆ Oversee the work of the field personnel:
 - Make/verify assignments.
 - Establish/review reporting requirements.
 - Hold planning and briefing meetings.
 - Emphasize communication and teamwork.
 - Resolve conflicts.
- ◆ Ensure that assigned personnel have the equipment, materials, and supplies needed to carry out their duties in a safe, efficient, and effective fashion.
- ◆ Provide Operations Section Chief with recommendation on the timing of the release of equipment and/or manpower no longer needed for on land operations.
- ◆ Report to Operations Section Chief on the status of afloat operations, as scheduled.

ENCL iii TO TAB c TO APP I TO ANNEX E TO THE CHARLESTON O&H ACP
SHORESIDE RECOVERY GROUP

The **Shoreside Recovery Group** is responsible for overseeing and implementing the containment, cleanup, temporary storage and disposal of waste as identified by the Planning section. The branch leader reports to the Operations Section Chief and is responsible for the deployment of containment, diversion, and absorbing boom in locations. The Shoreside Recovery Group Supervisor reports to the Recovery and Protection Branch Director. The Shoreside Recovery Group Supervisor shall:

- ◆ Review Common Responsibilities.
- ◆ Manage the personnel and equipment necessary to accomplish shoreline recovery and cleanup objectives established in the Incident Action Plan.
- ◆ Comply with booming priorities and provide realistic booming completion times.
- ◆ Deploy and maintain booms, dikes, or other protection devices as directed to accomplish protection, diversion, or containment strategies, and modify planned strategies as required by actual field conditions.
- ◆ Report on the efficiency of shoreline recovery and cleanup methods.
- ◆ Maintain booms and mooring systems and ensure that product which has been contained, diverted, or captured is recovered.
- ◆ Maintain estimates of recovered oil and waste generated by response operation.
- ◆ Develop tactical strategies for on land response operations, and identify heavy equipment, containment booms, recovery equipment, pressure washer, pumps, sorbent materials, or any other equipment to be used to contain and recover spilled oil.
- ◆ Identify protection resource and logistics needs, including boom types, lengths, mooring systems, and vessel support requirements.
- ◆ Propose alternative protection strategies based on field results and environmental conditions.
- ◆ Ensure that assigned personnel have the equipment, materials, and supplies needed to carry out their duties in a safe, efficient, and effective fashion.

- ◆ Oversee the work of the field personnel:
 - Make/verify assignments.
 - Establish/review reporting requirements.
 - Hold planning and briefing meetings.
 - Emphasize communication and teamwork.
 - Resolve conflicts.
- ◆ Request Natural Resource Trustees sign off on shoreline cleanup activities.
- ◆ Ensure that assigned personnel have required level of safety training.
- ◆ Provide Operation Section Chief with recommendations on the timing of the release of equipment and/or manpower no longer needed for on land response operations.
- ◆ Ensure that appropriate documentation is compiled on response operations and copies are forwarded to Planning and Finance Sections.
- ◆ Report to the Operations Section Chief on the effectiveness of booming and other to shoreline cleanup methods, as scheduled.
- ◆ Maintain Unit/Activity Log (ICS 214).

ENCL iv TO TAB c TO APP I TO ANNEX E TO THE CHARLESTON O&H ACP
DISPOSAL GROUP

The **Disposal Group** is responsible for coordinating the on site activities of personnel engaged in collecting, storing, transporting, and disposing of waste materials. Depending on the size and location of the spill, the disposal groups may be further divided into teams, task forces, and single resources. The Disposal Group Supervisor reports to the Recovery and Protection Branch Director. The Disposal Group Supervisor shall:

- ◆ Review Common Responsibilities.
- ◆ Implement disposal portion of Incident Action Plan.
- ◆ Ensure compliance with all hazardous waste laws and regulations.
- ◆ Maintain accurate records of recovered material.
- ◆ Brief Recovery and Protection Branch Director on activities.
- ◆ Maintain Unit/Activity Log (ICS 214).

EXH 1 TO ENCL iv TO TAB c TO APP I TO ANN E TO THE CHARLESTON O&H ACP
REMOVAL AND WASTE DISPOSAL CONSIDERATIONS

1. GENERAL.

a. The Resource Conservation and Recovery Act (RCRA), found in 40 CFR 260-266 & 270, is intended to promote the protection of health and the environment, and to conserve valuable material and energy resources by providing guidelines for solid waste collection, transportation, separation, recovery, and disposal practices and systems.

b. In South Carolina, the Department of Health and Environmental Control (DHEC) has passed regulations at least as protective as RCRA, and has authorization from the Environmental Protection Agency to enforce RCRA in the State. The South Carolina Hazardous Waste Management Regulations (R.61-79) and Solid Waste Regulations (R.61-107.1, R.61-107.2, R.61-107.3, R.61-107.4, R.61-107.5, R.61-107.6, R.61-107.10, R.61-107.11, R.61-107.12, R.61-107.14, and R.61-107.258.) promulgated pursuant to sections 44-45-10 thru 44-56-140 and sections 44-96-10 thru 44-96-160 of the 1976 South Carolina Code of Laws, establish requirements for management of both hazardous and nonhazardous wastes.

2. CLASSIFICATIONS. The Hazardous Waste Management Regulations require generators of wastes to make a determination as to whether that waste is hazardous or nonhazardous. A waste may be hazardous either because it is specifically listed or because it meets one of the characteristics (ignitability, corrosivity, reactivity, or toxicity) of a hazardous waste, as described by the regulations. Xylene is an example of a listed hazardous waste. Leaded gasoline would meet the characteristics of both ignitability (flash point less than 140 degrees F) and toxicity (greater than 5 parts per million lead and greater than 0.5 parts per million benzene as determined by the toxicity characteristic leaching procedures).

a. Hazardous. If a waste is hazardous, a generator must submit a notification to DHEC. While he arranges (through an authorization process) for a permitted facility to treat, store, or dispose of his waste, he must ensure that his wastes are properly containerized, labeled, and secured. The waste must be transported by a permitted hazardous waste transporter under a manifest system to the authorized facility. Records must be kept by the generator, and a quarterly report must be filed with DHEC. When recovered and reused, wastes are excluded from regulation. However, full compliance is required up to the point of reuse. Lists of permitted hazardous waste facilities and transporters are attached.

b. Nonhazardous. Nonhazardous wastes are not as stringently regulated. While disposal is being arranged with a properly permitted facility and disposal approval is being obtained from DHEC, nonhazardous wastes must be stored in a manner that prevents health and safety problems and releases to the environment.

- (1) Disposal options vary with the nature and amount of the waste, and include use in asphalt manufacturing, cement manufacturing, brick manufacturing, as a fuel in an industrial boiler, incineration, disposal in a permitted wastewater treatment facility, and disposal in a permitted landfill. The State operates no commercial disposal facilities, and disposal approvals will always be contingent on the facility's

acceptance of each waste. Therefore, the generator must obtain agreement to accept the waste from the facility prior to applying to DHEC for approval. Waste management and transportation companies are familiar with changing regulations in South Carolina and other states, and are especially well qualified to arrange cost-effective disposal for each type and quantity of waste at the various disposal and reuse facilities. These companies are also equipped to arrange short-term storage while disposal options are pursued.

For a waste to be accepted into a wastewater treatment facility, it must meet conditions imposed by the General Pretreatment Regulations (Section 403 of the Federal Water Pollution Control Act, as amended), must be in accordance with a pretreatment program developed by the facility and approved by DHEC, and must be in accordance with DHEC's approval for transportation of that waste to the facility. The facility may impose additional restrictions and conditions as allowed by sewer use ordinances.

In order for a waste to be accepted into a nonhazardous waste landfill, the generator must have determined the waste to be nonhazardous, and the landfill which is to receive the waste must have either a permit from DHEC for disposal of that specific waste, or an approval from DHEC on a case by case basis. The generator of the waste, with assistance from the landfill operator and waste hauler, provides information about the waste to be used to apply to DHEC for disposal approval. In the approval, special conditions may be imposed, as needed, to allow for proper management of that waste. The landfill may impose additional restrictions and conditions, or may decline to accept the waste.

Acceptance of nonhazardous waste at asphalt, cement, and brick manufacturing facilities must be in compliance with applicable permits and with specific disposal approval from DHEC.

Disposal issues must be coordinated with the Waste Assessment Branch of DHEC's Columbia office and also the DHEC district office hazardous waste consultant.

ENCL v TO TAB c TO APP I TO ANNEX E TO THE CHARLESTON O&H ACP
DECONTAMINATION GROUP

The **Decontamination Group** is responsible for decontamination of personnel and response equipment in compliance with approved statutes. The Decontamination Group Supervisor reports to the Recovery and Protection Branch Director. The Decontamination Group Supervisor shall:

- ◆ Review Common Responsibilities.
- ◆ Implement Decontamination Plan.
- ◆ Determine resource needs.
- ◆ Direct and coordinate decontamination activities.
- ◆ Brief Site Safety Officer on conditions.
- ◆ Brief Recovery and Protection Branch Director on activities.
- ◆ Maintain Unit/Activity Log (ICS 214).

TAB d TO APPENDIX I TO ANNEX E TO THE CHARLESTON OIL & HAZMAT ACP
EMERGENCY RESPONSE BRANCH

The **Emergency Response Branch** is primarily responsible for overseeing and implementing emergency measures to protect life, mitigate further damage to the environment, and stabilize the situation. The Emergency Response Branch Director reports to the Operations Section Chief. The Emergency Response Branch Director shall:

- ◆ Review Common Responsibilities.
- ◆ Participate in planning meetings as required.
- ◆ Develop operations portion of Incident Action Plan.
- ◆ Supervise operations.
- ◆ Determine need and request additional resources.
- ◆ Review suggested list of resources to be released and initiate recommendation for release of resources.
- ◆ Report information about special activities, events, and occurrences to Incident Commander.
- ◆ Maintain Unit/Activity Log (ICS 214).

ENCL i TO TAB d TO APP I TO ANNEX E TO THE CHARLESTON O&H ACP
SEARCH AND RESCUE (SAR) GROUP

The Search and Rescue Group is responsible for prioritization and coordination of all SAR missions directly related to a specific incident. The Search and Rescue Group Supervisor reports to the Emergency Response Branch Director. The Search and Rescue Group Supervisor shall:

- ◆ Review Common Responsibilities.
- ◆ Prioritize SAR missions.
- ◆ Determine resource needs.
- ◆ Direct and coordinate SAR missions.
- ◆ Manage dedicated SAR resources.
- ◆ Brief Emergency Response Branch Director on activities.
- ◆ Maintain Unit/Activity Log (ICS 214).

ENCL ii TO TAB d TO APP I TO ANNEX E TO THE CHARLESTON O&H ACP
SALVAGE GROUP

The **Salvage Group** is responsible for coordinating and directing all salvage activities related to the incident. Where an oil-carrying vessel is involved, the Salvage Group Supervisor will provide assistance to the Emergency Response Branch Director and the vessel operator in coordinating damage control and lightering operations and provide technical liaison. The Salvage Group Supervisor reports to the Emergency Response Branch Director. The Salvage Group Supervisor shall:

- ◆ Review Common Responsibilities.
- ◆ Direct and manage salvage resources to accomplish tactical operational objectives as directed.
- ◆ Obtain preliminary information on extent of vessel's damage, as well as stability and strength conditions. Assess damage to affected vessel, and attempt to control pollution source and minimize further damage.
- ◆ Work with vessel operator to identify source of pollution and measures to mitigate or stop.
- ◆ Conduct situation investigations, grounding surveys, and analyze salvage problems.
- ◆ Plan and carry out emergency lightering operations.
- ◆ Plan and carry out salvage operations.
- ◆ Identify salvage resources and logistics support needs.
- ◆ Direct and manage fire-fighting resources to accomplish tactical operational objectives as directed.
- ◆ Work with Emergency Response Branch Director to develop a plan to address any discharge that may occur during the movement of a disabled or damaged vessel or barge.
- ◆ Assist in preparation and review of a salvage/lightering plan with Emergency Response Branch Director for final approval by the Incident Commander.
- ◆ Keep vessel salvage personnel informed of changing weather conditions.
- ◆ Report to Emergency Response Branch on the status of salvage, as scheduled.
- ◆ Maintain Unit/Activity Log (ICS 214).

ENCL iii TO TAB d TO APP I TO ANNEX E TO THE CHARLESTON O&H ACP
FIRE SUPPRESSION GROUP

The **Fire Suppression Group** is responsible for coordinating and directing all fire fighting activities related to the incident. The Fire Suppression Group Supervisor reports to the Emergency Response Branch Director. The Fire Suppression Group Supervisor shall:

- ◆ Review Common Responsibilities.
- ◆ Prioritize responses to fires related to the incident.
- ◆ Identify fire fighting resources and logistics support needs.
- ◆ Plan and carry out fire fighting operations.
- ◆ Determine need and request additional resources.
- ◆ Direct and coordinate fire-fighting mission.
- ◆ Manage dedicated fire fighting resources.
- ◆ Conduct situation investigations, fire surveys, and analyze fire-fighting problems.
- ◆ Brief Emergency Response Branch on activities.
- ◆ Maintain Unit/Activity Log (ICS 214).

ENCL iv TO TAB d TO APP I TO ANNEX E TO THE CHARLESTON O&H ACP
HAZMAT GROUP

The **HAZMAT Group** is responsible for coordinating and directing all hazardous materials activities related to the incident. The HAZMAT Supervisor reports to the Emergency Response Branch Director. The HAZMAT Group Supervisor shall:

- ◆ Review Common Responsibilities.
- ◆ Prioritize HAZMAT responses related to the incident.
- ◆ Identify HAZMAT resources and logistics support needs.
- ◆ Plan and carry out HAZMAT operations.
- ◆ Determine need and request additional resources.
- ◆ Direct and coordinate HAZMAT responses.
- ◆ Manage dedicated HAZMAT resources.
- ◆ Conduct situation investigations, surveys, and analyze problems.
- ◆ Brief Emergency Response Branch on activities.
- ◆ Maintain Unit/Activity Log (ICS 214).

ENCL v TO TAB d TO APP I TO ANNEX E TO THE CHARLESTON O&H ACP
EMERGENCY MEDICAL SERVICES (EMS) GROUP

The **Emergency Medical Services (EMS) Group** is responsible for coordinating and directing all emergency medical services related to the incident. The EMS Group Supervisor reports to the Emergency Response Branch Director. The EMS Group Supervisor shall:

- ◆ Review Common Responsibilities.
- ◆ Prioritize EMS responses related to the incident and respond to medical emergencies.
- ◆ Identify EMS resources and logistics support needs.
- ◆ Determine need and request additional resources.
- ◆ Direct and coordinate EMS responses.
- ◆ Manage dedicated EMS resources.
- ◆ Conduct situation investigations, surveys, and analyze problems.
- ◆ Brief Emergency Response Branch on activities.
- ◆ Maintain Unit/Activity Log (ICS 214).

EXH 1 TO ENCL v TO TAB d TO APP I TO ANN E TO THE CHARLESTON O&H ACP
WARNING SYSTEMS AND EMERGENCY PUBLIC NOTIFICATION

Public warnings and emergency public notifications are carried out by the cognizant county Emergency Preparedness Division (EPD).

CHARLESTON COUNTY EPD.....(843) 554-5951
BERKELEY COUNTY..... (843) 723-3800
COLLETON COUNTY EPD.....(843) 549-5632
GEORGETOWN COUNTY EPD.....(843) 546-6869
HORRY COUNTY EPD.....(843) 248-1225
24 HOUR.....(843) 248-1300

Vessel notifications will be coordinated with Coast Guard Group Charleston via Broadcast Notice to Mariners (BNTM).

EXH 2 TO ENCL v TO TAB d TO APP I TO ANN E TO CHARLESTON O&H ACP
EVACUATION PROCEDURES

1. SHORESIDE. During the course of a response to a hazardous substance release, it may become necessary to evacuate an area in the vicinity of the release site. The Incident Commander will make the determination to evacuate populated areas and the appropriate county Emergency Preparedness Division (EPD) will coordinate local, state, and Federal resources to ensure that the evacuation is carried out. Reference the Charleston County Emergency Operations Plan or the South Carolina Comprehensive Emergency Preparedness Plan for details.

CHARLESTON COUNTY EPD.....(843) 554-5951
BERKELEY COUNTY.....(843) 723-3800
COLLETON COUNTY EPD.....(843) 549-5632
GEORGETOWN COUNTY EPD.....(843) 546-6869
HORRY COUNTY EPD.....(843) 248-1225
24 HOUR.....(843) 248-1300

2. VESSEL. In the event that a moored or anchored vessel is located in an area subject to evacuation, a Captain of the Port Order may be necessary to evacuate the vessel. Coast Guard personnel should coordinate with the vessel's master and/or agent to safely evacuate the vessel. It may also be necessary to establish and enforce a safety zone to prohibit vessel traffic into an excluded area. A vessel should NEVER be ordered to evacuate without first consulting with the Captain of the Port, regardless of whether it is underway or moored.

ENCL vi TO TAB d TO APP I TO ANNEX E TO THE CHARLESTON O&H ACP
LAW ENFORCEMENT GROUP

The **Law Enforcement Group** is responsible for coordinating and directing all law enforcement activities related to the incident. This may include but not be limited to; isolating the incident, crowd control, traffic control, enforcing evacuations, beach closures, conducting routine patrols, and/or perimeter security. The Law Enforcement Group Supervisor reports to the Emergency Response Branch Director. The Law Enforcement Group Supervisor shall:

- ◆ Review Common Responsibilities.
- ◆ Determine need and request additional resources.
- ◆ Direct and coordinate law enforcement activities.
- ◆ Manage dedicated law enforcement resources.
- ◆ Conduct situation investigations, surveys, and analyze problems.
- ◆ Manage and enforce required public protection actions.
- ◆ Brief Emergency Response Branch on activities.
- ◆ Maintain Unit/Activity Log (ICS 214).

TAB e TO APPENDIX I TO ANNEX E TO THE CHARLESTON OIL & HAZMAT ACP
AIR OPERATIONS BRANCH

The **Air Operations Branch** is primarily responsible for preparing the air operations portion of the Incident Action Plan. The Incident Action Plan will reflect agency restrictions that have an impact on the operational capability or utilization of resources such as night flying or hours per pilot. After the Incident Action Plan is approved, air operations is responsible for implementing its strategic aspects, those that relate to the overall incident strategy as opposed to those that pertain to tactical operations like specific target selection. Additionally, the Air Operations Branch Director is responsible for providing logistical support to helicopters operating on the incident. The Air Operations Branch Director reports to the Operations Section Chief. The Air Operations Branch Director shall:

- ◆ Review Common Responsibilities.
- ◆ Organize preliminary air operations.
- ◆ Request declaration or cancellation of restricted air space area.
- ◆ Participate in planning meetings as required.
- ◆ Participate in preparation of the Incident Action Plan.
- ◆ Perform operational planning for air operations.
- ◆ Prepare and provide Air Operations Summary Worksheet to the Air Support Group and Fixed-Wing Bases.
- ◆ Determine coordination procedures for use by air organization with ground Branches, Divisions, or Groups.
- ◆ Coordinate with appropriate Operations Section personnel.
- ◆ Supervise all air operations activities associated with the incident (ICS 220).
- ◆ Establish procedures for emergency reassignment of aircraft.
- ◆ Schedule approved flights of non-incident aircraft in the restricted air space area.
- ◆ Inform the Air Tactical Group Supervisor of the air traffic situation external to the incident.
- ◆ Resolve conflicts concerning non-incident aircraft.
- ◆ Coordinate with Federal Aviation Agency.
- ◆ Update air operations plans.

- ◆ Report to the Operations Section Chief on air operations activities.
- ◆ Arrange for an accident investigation team when warranted.
- ◆ Maintain Unit/Activity Log (ICS 214).

ENCL i TO TAB e TO APP I TO ANNEX E TO THE CHARLESTON O&H ACP
AIR TACTICAL GROUP

This enclosure describes the duties of the **Air Tactical Group** and the two coordinators that report to the Air Tactical Group Supervisor, the Helicopter Coordinator and the Fixed Wing Coordinator.

The **Air Tactical Group** is primarily responsible for the coordination and scheduling of aircraft operations intended to locate, observe, track, surveil, support dispersant applications, or other deliverable response application techniques, or report on the incident situation when fixed and/or rotary-wing aircraft are airborne at an incident. These coordination activities are performed by the Air Tactical Group Supervisor while airborne. The Air Tactical Group Supervisor reports to the Air Operations Branch Director. The Air Tactical Group Supervisor shall:

- ◆ Review Common Responsibilities.
- ◆ Determine what aircraft (fixed wing and helicopters) are operating within the area of assignments.
- ◆ Obtain briefing from the Air Operations Branch Director or Operations Section Chief.
- ◆ Manage air tactical activities based upon the Incident Action Plan.
- ◆ Establish and maintain communications with Air Operations, Fixed Wing Aircraft and Helicopter Coordinators, Air Support Group Supervisor, and Fixed-Wing Bases.
- ◆ Coordinate approved flights on non-incident aircraft or non-tactical flights in restricted air space area.
- ◆ Coordinate dispersant, in-situ burning, and bioremediation application through the Air Operations Branch Director.
- ◆ Obtain information about air traffic external to the incident.
- ◆ Receive reports of non-incident aircraft violating restricted air space area.
- ◆ Make tactical recommendations to approved ground contact (Operations Section Chief, Branch Director, or Division Supervisor).
- ◆ Inform the Air Operations Branch Director of tactical recommendations affecting the air operations portion of the Incident Action Plan.
- ◆ Coordinate air surveillance mission scheduling and observer assignments with the Situation Unit Leader.
- ◆ Identify remote sensing technology that may enhance surveillance capabilities.
- ◆ Coordinate air surveillance observations and provide reports by the most direct methods available.

- ◆ Report on air surveillance and operations activities to Air Operations Branch Director.
- ◆ Coordinate application monitoring requirements with the Helicopter and Fixed Wing Coordinators and the Situation Unit.
- ◆ Report on air application activities to the Air Operations Director.
- ◆ Report on incidents/accidents.
- ◆ Maintain Unit/Activity Log (ICS 214).

The **Helicopter Coordinator** is primarily responsible for the coordination of all tactical or logistical helicopter missions while in flight over the mission. The Helicopter Coordinator is also responsible for the coordination and scheduling of helicopter operations intended to locate, observe, track, surveil, or report on the incident situation. The Helicopter Coordinator coordinates the application of dispersants, in-situ burning agents and bioremediation agents. The Helicopter Coordinator reports to the Air Tactical Group Supervisor.

- ◆ Review Common Responsibilities.
- ◆ Determine the type and quantity of aircraft operating within incident assignment area.
- ◆ Determine helicopter capabilities and limitations.
- ◆ Survey and report on potential problems within incident assignment area (other aircraft hazards, ground hazards, etc.).
- ◆ Coordinate air traffic control procedures with pilots, Air Operations Branch Director, Air Tactical Group Supervisor, Fixed Wing Coordinator, and the Air Support Group.
- ◆ Coordinate the use of communication frequencies for ground-to-air and air-to-air communications with the Air Tactical Supervisor and the Communications Unit.
- ◆ Assign and ensure use of appropriate operating frequencies by incident helicopters.
- ◆ Coordinate and make geographic assignments for helicopter operations with the Air Tactical Group Supervisor.
- ◆ Implement and monitor all safety requirements and procedures.
- ◆ Ensure that approved night flying procedures are being followed.
- ◆ Supervise all helicopter activities.
- ◆ Immediately report accidents or incidents to the Air Tactical Group Supervisor and the Air Operations Branch Director.
- ◆ Maintain Unit/Activity Log (ICS 214).

The **Fixed Wing Coordinator** is primarily responsible for the coordination of assigned airborne fixed-wing aircraft operations at the incident. The Fixed Wing Coordinator is also responsible for the scheduling of fixed wing operations intended to locate, observe, track, surveil, or report on the incident situation. The Fixed Wing Coordinator coordinates the application of dispersants, in-situ burning agents, and bioremediation agents. The Fixed Wing Coordinator reports to the Air Tactical Group Supervisor.

- ◆ Review Common Responsibilities.
- ◆ Determine type and quantity of aircraft operating within the incident area.
- ◆ Determine fixed-wing aircraft capabilities and limitations.
- ◆ Survey and report on potential problems within incident assignment area.
- ◆ Coordinate air traffic control procedures with pilots, Air Operations, Air Tactical Group Supervisor, Helicopter Coordinator, and Air Support Group.
- ◆ Immediately report accidents or incidents to the Air Tactical Group Supervisor and the Air Operations Branch Director.
- ◆ Maintain Unit/Activity Log (ICS 214).

ENCL ii TAB e TO APP I TO ANNEX E TO THE CHARLESTON O&H ACP
AIR SUPPORT GROUP

The **Air Support Group** is primarily responsible for supporting and managing helibase and helispot operations, and maintaining liaison with fixed-wing air bases. This includes providing:

- a. fuel and other supplies;
- b. maintenance and repair of helicopters;
- c. keeping records of helicopter activity; and
- d. providing enforcement of safety regulations.

These major functions are performed at helibases and helispots. Helicopters during landing and takeoff and while on the ground are under the control of the air support group's Helibase or Helispot managers. The Air Support Group Supervisor reports to the Air Operations Branch Director.

- ◆ Review Common Responsibilities.
- ◆ Obtain copy of the Incident Action Plan from the Air Operations Branch Director, including the Air Operations Summary Worksheet.
- ◆ Participate in Air Operations Branch Director planning activities.
- ◆ Inform Air Operations Branch Director of group activities.
- ◆ Identify resources/supplies dispatched for air support group.
- ◆ Request special air support items from appropriate sources through logistics section.
- ◆ Identify helibase and helispot locations from the Incident Action Plan or from the Air Operations Branch Director.
- ◆ Determine need for assignment of personnel and equipment at each helibase or helispot.
- ◆ Coordinate special request for air logistics.
- ◆ Maintain coordination with air bases supporting the incident.
- ◆ Coordinate activities with Air Operations Branch Director.
- ◆ Obtain assigned ground to air frequency for helibase operations from Communication Unit Leader or Communications Plan.
- ◆ Inform Air Operations Branch Director of capability to provide night flying service.
- ◆ Ensure compliance with each agency's operations checklist for day and night operations.
- ◆ Ensure dust abatement procedures are implemented at helibase and helispots.

- ◆ Provide crash-rescue service for helibases and helispots.
- ◆ Ensure that Air Traffic Control procedures are established between helibase and helispots and the Air Tactical Group Supervisor, Helicopter Coordinator or Air Tanker/Fixed Wing Coordinator.
- ◆ Maintain Unit/Activity Log (ICS 214).

TAB f TO APPENDIX I TO ANNEX E TO THE CHARLESTON OIL & HAZMAT ACP
WILDLIFE RECOVERY BRANCH

The **Wildlife Recovery Branch** is responsible for the recovery and rehabilitation of wildlife impacted by the spill. The branch may be further divided into groups such as marine mammal recovery, marine mammal rehabilitation, bird recovery, and bird rehabilitation. The Wildlife Recovery Branch Director reports to the Operations Section Chief. The Wildlife Recovery Branch Director shall:

- ◆ Review Common Responsibilities.
- ◆ Coordinate wildlife protection and rescue operations with Federal and state resource agencies.
- ◆ Identify type and number of wildlife that may require recovery and rehabilitation based upon;
 - species
 - sensitivity to oil
 - mobility
- ◆ Establish wildlife recovery and rehabilitation protocols based upon;
 - species
 - location
 - availability of care facilities
 - Wildlife trustee relationships
- ◆ Collect and coordinate information required to document natural resource damages.
- ◆ Identify resource and logistics requirements to accomplish hazing, capture, triage, care, transport, rehabilitation, and release of wildlife.
- ◆ Direct, coordinate, and conduct wildlife recovery and capture operations.
- ◆ Establish and maintain a central clearing point to direct recovered wildlife to appropriate rehabilitation facilities.
- ◆ Develop and maintain an evidence, tagging, and storage procedure for all wildlife recovered.
- ◆ Determine whether hazing might be feasible to reduce wildlife impact.
- ◆ Manage the capture, triage, first aid, and transportation of recovered wildlife.
- ◆ Provide training and briefing on actions and notifications required when response workers or members of the public encounter distressed wildlife.
- ◆ Establish wildlife rehabilitation centers and conduct rehabilitation operations.

- ◆ Maintain Documentation on wildlife delivered for rehabilitation.
- ◆ Store, document, coordinate laboratory analysis and necroses, and properly handle deceased wildlife.
- ◆ Coordinate the recovery and disposal of animal carcasses with the U.S. Fish and Wildlife Service.
- ◆ Work with the Safety Officer to maximize the safety of recovery personnel engaged in protection and rescue operations.
- ◆ Identify resources and logistics support requirements.
- ◆ Report to the Operations Section Chief on wildlife recovery operations, as scheduled.
- ◆ Maintain Unit/Activity Log (ICS 214).

ENCL i TO TAB f TO APP I TO ANNEX E TO THE CHARLESTON O&H ACP
WILDLIFE RECOVERY GROUP

The **Wildlife Recovery Group** is responsible for coordinating the search for, collection, and field tagging of dead and live impacted wildlife and transporting them to processing center(s). This group should coordinate with the Planning Section (Situation Unit) in conducting aerial and group surveys of wildlife population in the vicinity of the spill. They should also deploy acoustic and visual wildlife hazing equipment as needed. The Wildlife Recovery Group Supervisor reports to the Wildlife Branch Director. The Wildlife Recovery Group Supervisor shall:

- ◆ Review Common Responsibilities.
- ◆ Determine resource needs.
- ◆ Establish and implement protocols for collection and logging of impacted wildlife.
- ◆ Coordinate transportation of wildlife to processing station(s).
- ◆ Brief Wildlife Branch Director on activities.
- ◆ Maintain Unit/Activity Log (ICS 214).

ENCL ii TO TAB f TO APP I TO ANNEX E TO THE CHARLESTON O&H ACP
WILDLIFE REHABILITATION CENTER

Under the Wildlife Branch Director, the **Wildlife Rehabilitation Center** is responsible for receiving oiled wildlife at the processing center, recording essential information, collecting necessary samples, and conducting triage, stabilization, treatment, transport and rehabilitation of oiled wildlife. The center is responsible for assuring appropriate transportation to appropriate treatment centers for oiled animals requiring extended care and treatment.

- ◆ Review Common Responsibilities
- ◆ Determine resource needs and establish processing center for impacted wildlife.
- ◆ Process impacted wildlife and maintain logs.
- ◆ Collect numbers/types/status of impacted wildlife and brief Wildlife Center Supervisor.
- ◆ Coordinate transport of wildlife to other facility.
- ◆ Implement demobilization plan.
- ◆ Brief Wildlife Branch Director on activities.
- ◆ Maintain Unit/Activity Log (ICS 214).

TAB g TO APPENDIX I TO ANNEX E TO THE CHARLESTON OIL & HAZMAT ACP
WATERWAY MANAGEMENT BRANCH

The **Waterways Management Branch** is responsible for identifying the impact an incident has on vessel traffic, immediate and potential, and developing traffic controls to mitigate that impact as much as possible. The Waterways Management Branch Supervisor reports to the Operations Section Chief. The Waterways Management Branch Supervisor shall:

- ◆ Review Common Responsibilities.
- ◆ Coordinate and conduct waterways management and vessel traffic control as required.
- ◆ Draft and publish Safety Voice Broadcasts and conduct phone notifications to advise the affected maritime of navigation restrictions or hazards.
- ◆ Identify areas where traffic controls may be needed to maintain vessel safety and minimize spread of pollutant. These may include:
 - Safety zones
 - Security zones
 - Captain of the Port Orders
- ◆ Develop safety zones, security zones, and vessel traffic management alternatives for approval by the Captain of the Port (COTP).
- ◆ Coordinate and implement enforcement of safety zones, security zones, and vessel traffic management schemes.
- ◆ Manage and direct dedicated Waterways Unit resources and coordinate Waterways Unit missions with resources of opportunity.
- ◆ Identify additional resources and logistics needs.
- ◆ Report to the Operations Section Chief on the status of waterways management operations, as scheduled.
- ◆ Maintain Unit/Activity Log (ICS 214).

APPENDIX II TO ANNEX E TO CHARLESTON OIL & HAZMAT ACP
REQUIRED LETTERS AND REPORTS

This appendix addresses two categories of paperwork that the OSC must administer during an oil spill incident. The first category is paperwork that is given to the responsible party to meet the legal notification requirements of OPA 90. These are addressed in Tab a to this appendix. The second category is reports that must be passed to higher authority either during or at the conclusion of an incident. These may be found in Tab b to this appendix.

TAB a TO APPENDIX II TO ANNEX E TO THE CHARLESTON OIL & HAZMAT ACP LETTERS

The letters included in this tab are administered by the Coast Guard and are included here for the information of other agencies. They include:

- ◆ Notice of Federal Interest
- ◆ Notice of Federal Assumption
- ◆ Letter of Designation of Source
- ◆ Administrative Order

ENCL i TO TAB a TO APP II TO ANNEX E TO THE CHARLESTON O&H ACP
NOTICE OF FEDERAL INTEREST (OIL/HAZMAT)

These forms inform a potential responsible party that there has been or potentially will be a spill of oil or hazardous materials for which the party may be financially responsible. The requirements for filling out these forms are self-explanatory. CG-5549 is a standard form available through government stock and is used for oil pollution incidents. Also included is a locally generated form that can be used in the event of a hazardous chemical release.

16480
Date/Time

NOTICE OF FEDERAL INTEREST FOR
A HAZARDOUS CHEMICAL RELEASE

Gentlemen:

On or about _____ 19____, a hazardous chemical release incident occurred at _____, for which you may be financially responsible. Under federal statutes, the United States Government may take action to minimize or mitigate damages to the public health or welfare that is threatened or may be caused by this incident.

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) authorizes the federal government to respond to this pollution incident. Under this Act, if the responsible party fails to take adequate removal actions, they may be held financially responsible for any removal actions taken by the federal government. Removal is adequate and being done properly if it is done in accordance with federal and state statutes and regulations and the criteria of the National Oil and Hazardous Substances Pollution Contingency Plan.

If you undertake removal actions, the adequacy of such actions shall be determined by the U.S. Coast Guard On-Scene Coordinator (OSC). The OSC for this area is _____. The OSC will evaluate your response actions and provide direction and guidance as necessary. If you do not take prompt and appropriate removal actions, federal response may be initiated.

Under CERCLA, your response actions will be taken into account in determining the amount of any penalty assessed as a result of the release. You may be held responsible for all costs incurred by the Superfund and punitive damages may be assessed in the amount not to exceed three times the cost incurred by the fund as set forth in section 107 of CERCLA.

Should you require further information concerning this matter, please contact: _____
_____ at the above address and telephone number.

Sincerely,

Received and Acknowledged:

Witnesses:

ENCL ii TO TAB a TO APP II TO ANN E TO CHARLESTON O&H ACP
NOTICE OF FEDERAL ASSUMPTION

This form instructs the responsible party or suspected responsible party that clean up activity to date has not been satisfactory and that the OSC intends to conduct the clean up from that point on. The responsible party remains financially responsible for the clean up and penalties. The requirements for filling out this form are self explanatory.

16480

Date/Time

**NOTICE OF FEDERAL ASSUMPTION FOR
AN OIL POLLUTION INCIDENT**

Gentlemen:

My letter of _____, delivered to you or your representative
_____ at _____
_____, notified you of Federal Interest in a pollution incident for which you are
considered financially responsible.

You are hereby given notice that your actions to abate this threat or remove the oil from the
waters, or adjacent shoreline have been evaluated as being unsatisfactory by the U.S. Coast
Guard's Federal On-Scene Coordinator (FOSC), _____.

Effective _____, the U.S. Coast Guard will conduct all response/removal
activities under the authority of one or more Federal statutes, including, but not limited to
Section 311 of the Federal Water Pollution Control Act and the Intervention on the High Seas
Act.

Should you require further information concerning this matter, you should contact,
_____ at the above address and telephone number listed above.

Sincerely,

Received and Acknowledged:

Witnesses:

ENCL iii TO TAB a TO APP II TO ANN E TO CHARLESTON O&H ACP
LETTER OF DESIGNATION (TOPS)

The formal designation of source is required in actual or potential spills where the potential for third party claims exists. When claims are not expected, a formal designation is not required. The primary issue involved in designations of sources (from an operational standpoint) is the requirement for the designated source to advertise to inform potential claimants. The FOSC is not part of this process. In instances where the source of the spill is known and claims are expected, the FOSC will formally designate the source of the spill in writing. The FOSC will then inform the NPFC that a source has been designated. Notification to the NPFC may be by letter or message (included as part of a POLREP). In instances where the source of the spill is not known and claims are expected, the FOSC will notify NPFC of the situation by message or letter. The NPFC will then conduct the necessary advertising campaign. A standard form letter for the designation of sources is currently under development by the Coast Guard (G-MEP). Until this letter is completed, the following local letter will be used.

16480

Date: _____

LETTER OF DESIGNATION

Gentlemen:

Your FACILITY/COMPANY/VESSEL is involved in an actual or potential spill of an oil or oily material, specifically _____, at _____. After consultation with the Federal On-Scene Coordinator, _____, it has been determined that there is a very high probability that you are the source of this spill. It has also been determined that there is a significant probability that third party claims will result from this spill. Pursuant to the requirements of the Oil Pollution Act of 1990 (OPA 90 sec. 1001), you are hereby designated as the source of this spill. In addition to all requirements which the On-Scene Coordinator may make of you concerning the clean up of this spill, you are required to contact the National Pollution Funds Center at (703) 235-4700 during normal working hours concerning your responsibilities to advertise to inform potential claimants of the situation.

If you believe that this designation has been made in error, you may deny it. Denial of the designation does not relieve you of the responsibilities placed on you by the On-Scene Coordinator or representative or the responsibility to contact the National Pollution Funds Center.

Sincerely,

(printed name)

OSC Representative

ENDORSEMENT

I ACCEPT/DENY the designation as the source of this spill.

(signature)_____
(printed name)_____
(company/vessel)_____
(position)_____

ENCL iv TO TAB a TO APP II TO ANN E TO THE CHARLESTON O&H ACP
ADMINISTRATIVE/DIRECTIVE ORDER

Administrative/Directive Order

This order is an intermediate step that the OSC may take in ensuring that appropriate action is taken in an oil or hazardous material spill event. The order directs the responsible party to take specified action without the OSC assuming total control of the response. Samples covering both FWPCA and CERCLA responses are included.

16480

Date: _____

[SAMPLE FWPCA ADMINISTRATIVE ORDER]

Administrative order issued to:

Gentlemen:

This letter constitutes an Administrative Order and is issued under the authority of the Oil Pollution Act of 1990 (OPA 90).

It has been determined that there has been a discharge, or is the potential of a discharge of oil or a hazardous substance from _____ on or about _____, __, 19__ in approximate position _____ which is of such size or character as to be a threat to the public health or welfare of the United States (including but not limited to fish, shellfish, wildlife, or other natural resources and the public and private beaches and shorelines of the United States). Under these circumstances OPA 90 requires the President (through the Federal On-Scene Coordinator) to direct all Federal, State, and private actions to remove the discharge or to mitigate or prevent the threat of discharge. The actions that are required of you are detailed in the enclosure to this letter, which is considered to be part of this administrative order.

Regardless of whether you are responsible for this discharge or potential discharge, failure to comply with this order may subject you to civil penalties under OPA 90. Further, if you are determined to be the responsible party, your failure to comply with this order or to provide reasonable cooperation to the Federal On-Scene Coordinator will eliminate any defense or entitlement to limited liability which otherwise might be available under OPA 90. Failure to adequately comply with this order may also result in the OSC taking actions to fulfill the intent of this order for which you could be liable.

If you have questions concerning this order, contact my staff at (803) 720-7701.

Sincerely,

Commander, U.S. Coast Guard
Captain of the Port
Charleston, South Carolina

Encl:

16480

Date: _____

[SAMPLE CERCLA ADMINISTRATIVE ORDER]

Administrative order issued to:

Gentlemen:

This letter constitutes an Administrative Order and is issued under the authority of the Subsection (a) to Section 106 to the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

It has been determined that there has been a release, or the potential for a release of a hazardous substance from _____ on or about _____, 19__ in approximate position _____ which is of such size or character as to be a threat to the public health or welfare of the United States (including but not limited to fish, shellfish, wildlife, or other natural resources and the public and private beaches and shorelines of the United States). Under these circumstances CERCLA requires the President (through the Federal On-Scene Coordinator) to direct all Federal, State, and private actions to remove the release or to mitigate or prevent the threat of release. The actions that are required of you are detailed in the enclosure to this letter, which is considered to be part of this administrative order.

Regardless of whether you are responsible for this release or potential release, failure to comply with this order may subject you to civil penalties under CERCLA. Further, if you are determined to be the responsible party, your failure to comply with this order or to provide reasonable cooperation to the Federal On-Scene Coordinator will eliminate any defense or entitlement to limited liability which otherwise might be available under CERCLA. Failure to adequately comply with this order may also result in the OSC taking actions to fulfill the intent of this order for which you could be liable.

These requirements are imposed under the authority of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 USC 9601 et seq., and the Clean Water Act (CWA), 33 USC 1321 et seq. Failure to act may result in liability for costs of any response undertaken by the Federal On Scene Coordinator, punitive damages and civil penalties. If you have questions concerning this order, contact my staff at (803) 720-7701.

Sincerely,

Commander, U.S. Coast Guard
Captain of the Port
Charleston, South Carolina

Encl:

TAB b TO APPENDIX II TO ANNEX E TO THE CHARLESTON OIL & HAZMAT ACP REPORTS

Appropriate reports shall be submitted in accordance with the applicable guidelines. Below is a listing of those reports. Examples of the required information for POLREPS and FOSC Reports are contained in the following Tabs.

| <u>REPORT</u> | <u>FORMAT</u> | <u>FREQUENCY</u> | <u>REFERENCE</u> |
|-----------------------------|----------------------|-----------------------------------|--------------------------------------|
| Pollution Reports (POLREPS) | Message | Incident Dependent | D7 SOP, Tab C to App9 to AnnP |
| Violation Report | MSIS | Incident Dependent Chap 4 | Marine Safety Manual, Vol I, |
| Cost Summary Report | Letter | Incident Dependent | NPFC TOPS |
| CERCLA Activity Report | Letter | Quarterly | COMDTINST 16465.38 (DFT) |
| FOSC Report | Letter | Major Oil Incident | NCP 300.165 |
| FOSC Report | Letter | All CERCLA Funded Incidents | NCP 300.165 MSM, Vol VI Chap 7 |

ENCL i TO TAB b TO APP II TO ANNEX E TO THE CHARLESTON AREA O&H ACP
OSC REPORT

1. **GENERAL.** Following any pollution event where federal funds were expended a completion report must be submitted to the NPFC. This may include actual or potential events in which the federal government hired contractors or brought in outside assistance (e.g., Strike Team or Navy), or, at the OSC's discretion, where the Coast Guard monitors a cleanup funded by the responsible party. It does not include investigations where no clean up is conducted. During long responses interim reports may be appropriate and/or requested by NPFC. Following major or unusual responses, an On-Scene Coordinator's Report is required in addition to the completion report described above.

a. The **Completion Report** consists of an Incident Report, cost documentation forms, and Pollution Removal Funding Authorizations (PRFA). Detailed information for completing this report is found in the Technical Operating Procedures Manual of the National Pollution Funds Center.

b. **OSC Reports** will be submitted to the Regional Response Team within one year following the completion of removal activities resulting from a major discharge of oil or a major release of hazardous materials, or when requested by the RRT. A copy of the report will also be sent to the Secretary of the National Response Team. The report shall be made in the following format:

Summary of Events--A Chronological Narrative

Location of Release or Discharge
Cause of Discharge or Release
Initial Situation
Efforts to Obtain Response by Responsible Party
Organization of Response, Including State Participation
Resources Committed
Content and Time of Notice to Resource Trustees
Damage Assessments and Restoration Efforts
Details of Threat Abatement
Treatment Disposal or Alternative Technology Used
Public Information and Community Relations

Effectiveness of Removal Actions Taken by:

Responsible Party
State and Local
Federal and Special Teams
Contractors, private groups, and volunteers

Difficulties Encountered

Recommendations and Lessons Learned

Means to Prevent Recurrence

Improvement of Response Actions

Recommended Changes to Contingency Plans

EXHIBIT ii TO TAB b TO APP II TO ANN E TO CHARLESTON AREA O&H ACP
POLLUTION REPORTS

Reference: (a) CGD SEVENINST 16465.2, POLLUTION REPORTING (POLREP) GUIDANCE

1. Commandant (G-MOR) requires message Pollution Reports (POLREPs) for oil spills and hazardous substance releases in the following circumstances:

- (a) Potential MEDIUM or MAJOR discharge or release;
- (b) Actual MEDIUM or MAJOR discharge or release; and
- (c) Any discharge or release where the Oil Spill Liability Trust Fund (OSLTF) is opened or the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) Fund is used.

Additionally, a POLREP shall be sent to the Seventh Coast Guard District in the following circumstances:

(a) Any MINOR oil spill which may generate Congressional, local, state or media interest or which interrupts a mode of transportation (e.g., navigable waterway closure, railroad closure, interstate highway closure, etc.);

(b) Any release of a quantity of a hazardous substance, pollutant or contaminant that poses a threat to public health, welfare, or the environment.

2. An initial POLREP shall be sent as soon as possible after initial notification. Subsequent POLREPs shall be sent every time an Authorization to Proceed (ATP) is issued or the ceiling, obligated funds, or expended funds are adjusted on an incident involving the OSLTF or CERCLA Fund. A daily POLREP is not mandatory unless action is taken on the case or on-scene conditions change from those stated in a previous POLREP. When a daily POLREP is not anticipated, state in the "Future Plan" section when the next update is expected.

3. The format on the following page shall be used.

P

FM COGARD MSO CHARLESTON SC

TO CCGDSEVEN MIAMI FL//M/CC//

INFO COMCOGARD NPFC WASHINGTON DC

COMDT COGARD WASHINGTON DC//G-MOR// (actual or potential medium/major spills)

COMLANTAREA COGARD PORTSMOUTH VA//ACC/AM// (actual or potential medium/major)

COGARD NATIONAL RESPONSE CENTER WASHINGTON DC (actual/potential med./maj.)

COMCOGARD MLC LANT NORFOLK VA//FCP2// (whenever an FPN has been issued)

COGARD FINCEN CHESAPEAKE VA//OGQ// (whenever an FPN has been issued)

COGARD NSFCC ELIZABETH CITY NC (GST has been requested or may be required)

COGARD GST MOBILE AL (GST has been requested or may be required)

HQ EPA WASHINGTON DC (all spills involving CERCLA-funded removals)

COMCOGARDGRU CHARLESTON SC (whenever group assets used)

BT

UNCLAS//N16465//

SUBJ: POLREP (#) (type pollutant) (actual or potential magnitude of spill [*2]) (probable magnitude of spill [*2]) (source) [*3] (waterways involved) (MSIS MC Number) (Federal Project Number (FPN)) or CERCLA Account Number

1. SITUATION:

A. (local time and notification information). Give names and telephone number or radio frequency.

B. (local time when investigator is on scene). Give description of spill and status of cleanup. For federally-funded response operations, include the latest estimate of funds expended.

C. (on-scene weather conditions)

D. (particulars of vessels/facilities involved)

2. ACTION TAKEN:

A. (List chronologically every major action taken by Coast Guard with regard to spill).

3. FUTURE PLANS AND RECOMMENDATIONS:

A. (give appropriate information)

4. CASE PENDING/CLOSED. (NO) VIOLATION REPORT TO FOLLOW (OR REASON WHY NO VIOLATION REPORT TO FOLLOW).

BT

NNNN

APPENDIX III TO ANNEX E TO THE CHARLESTON OIL & HAZMAT ACP
GENERAL RESPONSE CONSIDERATIONS, ALL HAZARDS

1. INITIAL ACTIONS. After initial notification, begin or activate the incident command process by making an assessment and by giving an initial radio report followed by a more complete description of the situation, the actions that are being taken, and the identification of command on-scene.

a. The initial report should include:

- ◆ Designation of the unit arriving on the scene;
- ◆ Name of incident;
- ◆ Location of the Incident Command Post and Staging Area, if used, if not is one needed;
- ◆ Notification or verification of the hazards involved; and
- ◆ Brief Description of the incident situation.

b. If you assume command from another, you must include the following additional information in your first report:

- ◆ Announcement of change of command;
- ◆ Verify identification of command;
- ◆ Brief description of action taken; and
- ◆ Safety Concerns.

2. COMMUNICATIONS PROCEDURES. Each individual using a radio for communications must be thoroughly trained in equipment use and the standard procedures for messages. For example, you should identify yourself and the receiver in the transmission, and the receiver should repeat the message back to you. In general, only clear text (not codes) should be used, and messages should be concise.

3. SITUATION ASSESSMENT. In order to respond effectively to incidents, guidelines should be established for assessing the severity of an incident and identifying the resources required to effectively manage a response. An example of such a guide is found in the NFPA's Recommended Practice for Responding to Hazardous Materials Incidents (NFPA 471).

The process of sizing up a hazardous materials incident is the same as for any other, though there may be more variables and more information to process. Regardless of the hazard, the strategic priorities are the same: life safety (operating forces and civilians), incident stabilization, and property and environment conservation. When conducting an assessment, you must be positioned uphill and upwind of any release. Also, you must use all your recognition and identification skills from First Response training to gather information from a distance.

a. Hazard Assessment. Before committing response personnel to courses of action that may endanger their lives, the Incident Commander must have a thorough understanding of the nature of the hazard, extent of material release, and the potential for further release or harm. The process of gathering information about the hazard may take time; this puts the Incident Commander in the difficult position of maintaining personnel in the defense mode when they may prefer to take offense action. Initial size up and risk assessment involves: hazard identification, vulnerability analysis, and risk analysis.

(1) **Hazard identification** should include:

- ◆ Chemical identities, quantities, and handling considerations;
- ◆ The location of the hazardous materials;
- ◆ Means of material spread;
- ◆ The hazards most likely to accompany the spill or release.

(2) **Vulnerability analysis** identifies the exposures that may be affected by a spill or release. The vulnerability analysis should provide information on:

- ◆ Types of exposures;
- ◆ The extent of the vulnerable area;
- ◆ The numbers and types of individuals that could be within the vulnerable area;
- ◆ The public and private property that may be damaged, including essential support systems(such as water, food, power, communication, medical) and transportation corridors;
- ◆ Other parts of the environment that may be affected.

(3) **Risk analysis** assesses the likelihood that injury or death may result from the hazardous materials release or spill. If the incident location has been pre-planned, valuable time can be saved. If not, this information must be collected before you can take any actions that may put fire fighters health and safety at risk.

b. Resource Assessment. The Incident Commander should have a standardized response for hazardous materials incidents. In addition, there must be guidelines for deploying personnel. For example, there should be minimum of two personnel for the **Entry Team**. A **Backup Team** must always be appropriately suited and ready to go on air when entry is made. There must be at least as many people on the Backup Team as on Entry Team. Emergency medical services must be available for personnel. Because of the risk for heat related injuries, advanced life support capabilities are needed whenever chemical protective clothing is worn.

In addition, a **Decontamination Team/Unit** consisting of two to four members must be in place using appropriate equipment and procedures when entry is made. A Decontamination Officer/Leader who is trained in hazardous material response must be available to oversee this and to monitor the on-air time of Decontamination personnel. What is most important to the Incident Commander is that **adequate resources be on the scene before any offensive operations begin.**

In order to manage arriving resources most effectively, a staging process can be used. Staging procedures are discussed in greater detail later in this unit.

c. Balancing Risks and Benefits. Many responders, particularly fire fighters, learn from early training that aggressive tactics are necessary for access. In a suspected hazardous materials incident, such aggressive tactics are not acceptable without clear information about hazards. The risks taken by response personnel must be justified by the likely benefits of their action.

- ◆ When actions are directed toward property conservation only, responders should only be subjected to low risk environments. Risk nothing for people and property already lost.
- ◆ When actions are directed toward the rescue of trapped victims who have low probability of survival, responders may be subjected to high-risk environments. It is reasonable to face risks in order to save a life.

The appropriate choice between offense and defensive operations in a hazardous materials incident may not always be evident, especially if victims are involved. You must consider carefully the following points.

The Victim:

- ◆ Has the person(s) requiring rescue been seen or are they otherwise known to exist?
- ◆ How long has the victim been trapped or exposed to the hazardous material? Is he or she viable?
- ◆ Is the victim trapped by vehicle or other debris?

The Hazards:

- ◆ What is the identity of the material(s)?
- ◆ If the released material is visible, is it pooling or vaporizing in the area around the victim?
- ◆ What are the properties of the involved material in the incident?
- ◆ Are ignition sources present? Is a large fire or explosion likely?
- ◆ How much material is involved? What is the release rate of the hazardous material?
- ◆ Is there any information regarding the concentration of the material in the area surrounding the victim.
- ◆ If a container or vehicle is involved, what is its condition? Is it stable?

The Rescuers:

- ◆ Are the rescuers adequately skilled and experienced? What is their level of training?
- ◆ Are the necessary environmental monitoring devices available to the rescuers?
- ◆ Is the available personnel protective equipment appropriate for the hazard(s) involved?
- ◆ Is adequate staffing available for support positions such as decon, safety and backup crews?
- ◆ How much time will the extrication and rescue require?
- ◆ Are the proper tools available to initiate the extrication and treatment?

It is important to consider all of these factors when developing a strategy. Realistic answers to these questions may indicate that no rescue should be attempted when the level of risk to the rescuer(s) is unacceptably high.

d. Developing Strategic Goals and Tactical Objectives. The overall plan for controlling an incident is based on **strategic goals**. The operational strategy is based on information gathered during the assessment process. Every individual operating at an incident must clearly understand the strategic goals and the mode of operation-offensive or defensive. It is important that the Incident Commander continue to gather and assess information, especially in the event that offensive operations are undertaken.

Tactical objectives are the specific operations that must be accomplished to achieve the strategic goals. Tactical objectives are specific and measurable and are given a specific time frame. All tactical objectives must be in keeping with the priorities of safety and health for individual responders as well as civilians. The following factors should be included as incident priorities:

- ◆ **Ensure personnel safety, accountability, and welfare.**
Example: denying restricted areas entry to personnel who lack proper training or equipment; assembling sufficient personnel before taking action
- ◆ **Ensure the safety of each civilian life.**
Example: isolate and deny entry; initiate in-place protection procedures; conduct a search and rescue in structure using appropriate precautions; decontaminate exposed civilians.
- ◆ **Stabilize the incident.**
Examples: protect exposures using hose streams; use water fog to suppress vapors; confine the release by diking leaking product; neutralize spills of corrosive material.

♦ **Conserve property and environment.**

Examples: allowing certain products to burn; diking runoff from water applied to the hazard; notifying environmental agencies of release and potential impact.

After initial decisions are made regarding goals and tactics, the Incident Commander must brief the officers/supervisors in charge of specific functions. The individuals in charge of specific functional areas determine what tasks are needed to accomplish the tactical objectives. Needs for information, equipment, and other resources must be clarified at this time. The tasks involved in filling each of these needs must be acknowledged by the person receiving the order.

TAB a TO APPENDIX III TO ANNEX E TO THE CHARLESTON OIL & HAZMAT ACP
OIL SPILL RESPONSE PROCESS AND STRATEGY

1. PROCESS.

- a. Dispatch pollution response team.
- b. Prepare press statement. *Press statement to read along these lines "Yes we have received a report of a spill and are in the process of investigating. A formal press release will be prepared as soon as more information is received." It is critical to give accurate information to the press as quickly as possible. If no information is available, tell them so, but ensure that they are given the information as soon as it is available.*
- c. Assess personnel safety.
 - ◆ Determine personnel safety equipment needed based on potential and existing exposure.
- d. Assess fire/explosion hazard.
- e. Determine threat to public health.
- f. Secure or isolate source.
- g. Define nature of incident.
 - ◆ Determine Responsible Party;
 - ◆ Determine environmental impact;
 - ◆ Determine status of spill;
 - ◆ Determine movement of spilled product;
 - ◆ Determine environmental resources/vulnerable areas at risk.
- h. Evaluate severity of incident and the need for additional resources.
 - ◆ Conduct initial assessment of incident severity.
 - ◆ Estimate duration of spill response efforts.
- i. Issue Letter of Federal Interest.
- j. Issue Letter of Designation of Source.
- k. Issue Directive/Administrative Order.
- l. Issue Letter of Federal Assumption.
- m. Initiate response strategy.
- n. Public Affairs Officer to draft press release.

2. GENERAL STRATEGY.

- a. Set response priorities.
 - ◆ Protect human life and health;
 - ◆ Minimize ecological impacts; and
 - ◆ Minimize economic and public impacts.
- b. Determine protection priorities.
- c. Determine appropriate countermeasures.
- d. Determine natural collection areas and boom sites throughout the area.
- e. Determine containment techniques.
- f. Determine removal techniques.
- g. Determine shoreline cleanup techniques/strategies.

3. RESPONSE CONSIDERATIONS.

- a. Evaluate level of response needed for incident.
 - ◆ Most probable discharge?
 - ◆ Maximum most probable discharge?
 - ◆ Worst case discharge?
- b. Evaluate if special circumstances exist requiring special action.
 - ◆ Fire/explosion.
 - ◆ Vessel grounding.
 - ◆ Lightering operations.
 - ◆ Salvage operations
- c. Implement support infrastructure.
 - ◆ Determine response structure that will be used, and from there determine level of support needed to fill positions in the structure.
- d. Mobilization of personnel.
 - ◆ Determine personnel needed for response, and identify source of personnel. Ensure personnel are properly trained, and health and safety issues are addressed.
 - Special Teams
 - Reserve augmentation

- DRG/DRAT support
- SONS augmentation

e. Mobilization of equipment.

- ◆ Determine equipment needed for response, and identify source. If mobilizing CG owned equipment when an RP is known and taking action, ensure the RP is aware of all costs associated with the mobilization and use. When contracting commercially ensure BOA contractors are utilized. If BOA contractors do not have required equipment contact MLC to initiate process. In all cases, identify;

- Type of equipment needed
- Quantity
- Location - where needed as well as where to be delivered, staging area.
- Support needed - boats for hauling and positioning boom and aircraft support for transporting equipment
- Additional requirements
- Contact list

f. Logistics.

- ◆ Logistics needed to support personnel.

- Food
- Lodging
- Additional clothing
- Transportation

- ◆ Logistics needed to support response.

- Adequate communications
- Command post - Establish command post in location to support response. Command post must be adequate in size to support the anticipated number of personnel.

- ◆ Air support (overflights)

- Coast Guard and Auxiliary
- Other agencies
- Private sources

g. Local impacts.

- ◆ Impact on water intakes.

- Drinking water
- Industrial

- ◆ Transportation of fresh water supply
- h. Funding issues.
 - ◆ OSC access to the Fund
 - ◆ State access to the fund
 - ◆ Vendors - BOA policy
- i. Volunteers.
- j. Fish, wildlife and habitat protection and mitigation of damage.
- k. Ensure coordination with natural resource damage assessment personnel.
- 4. CONTAINMENT AND CLEANUP.
 - a. Strategy.
 - ◆ Offshore considerations
 - ◆ Nearshore considerations
 - ◆ Shoreline considerations
 - ◆ Inland considerations
 - ◆ Sensitive areas
 - b. Staging areas.
 - c. Integrated cleanup system.
 - ◆ Booming and containment
 - ◆ Recovery of spilled product and contaminated debris (test for components of recovered product)
 - ◆ Temporary storage (RCRA & SCDHEC permitted)
 - ◆ Transport of collected material for disposal (RCRA & SCDHEC permitted)
 - d. Monitor oil movement.
 - ◆ Overflights
 - ◆ Computer modeling/trajectories
 - ◆ Continue to monitor proximity of spill to sensitive areas
 - e. Use of dispersants, other chemicals or other spill mitigating devices or substances.
 - ◆ Pre-approved areas
 - ◆ RRT approval process
 - ◆ Forms
 - ◆ Field tests
 - ◆ Documentation of effectiveness

- f. Shoreline cleanup.
- g. Set aside areas for research purposes and countermeasure effectiveness determination.
- h. Monitor and refine cleanup strategies.
- i. Develop criteria/guidance for terminating cleanup. Input from:
 - ◆ Unified Command (OSC, State, Responsible Party)
 - ◆ SSC and Federal, State and local scientific community including trustees
 - ◆ RRT

5. REMOVAL AND WASTE DISPOSAL.

- a. Federal, State and local laws/regulations.
- b. Volume of oil or hazardous substance for disposal.
- c. Identify disposal locations (on-site vs. off-site).
- d. Obtain necessary permits. (SCDHEC)
- e. Secure transportation for product disposal.
- f. Outline disposal plan.

6. SECURE OPERATIONS.

- a. Unified Command coordination
- b. Final survey
- c. Clean/return equipment
- d. Survey/replace equipment
- e. Restore damaged areas.
 - ◆ Consultation with appropriate Natural Resource Trustee
 - ◆ Consultation with property owners.

TAB b TO APPENDIX III TO ANNEX E TO THE CHARLESTON OIL & HAZMAT ACP
HAZMAT RESPONSE STRATEGY

INITIAL RESPONSE

1. **Coordinate** response efforts with Incident Commander. Monitor response and provide advice to Incident Commander as necessary. Ensure that local responders are capable and performing a safe and adequate response.
2. Responders to releases at the State Port Authority facilities should **be aware** that stow plans for each facility are available at the facility's guard shack.
3. **Evaluate** level of response needed for incident.
4. **Evaluate** if special circumstances exist requiring special action.
 - a. Immediate hazards (toxicity, combustibility, compatibility, corrosion hazards, oxidation hazards)
 - b. Site control
 - c. Evacuation considerations
 - d. Movement of containers required
 - e. Vessel grounding
 - f. Lightering operations
 - g. Salvage operations
 - h. Is COTP Order or safety zone necessary?
 - i. Existing and future weather/tide conditions
5. **Ensure** development of site safety plan prior to site entry.
6. **Implement** support infrastructure. Determine response structure that will be used, and from there determine level of support needed to fill positions in the structure.
7. **Mobilization** of personnel.
 - a. Determine personnel needed for response, and identify source of personnel. Ensure personnel are properly trained, and health and safety issues are addressed.
 - b. Special Forces
 - c. Reserve augmentation
 - d. DRG support
 - e. SONS augmentation
8. **Mobilization** of equipment.
 - a. Type of equipment needed
 - b. Quantity
 - c. Location - staging area
 - d. Support needed
 - e. Additional requirements

- f. Contact list

9. **Logistics.**

- a. Logistics needed to **support personnel.**

- (1) Food
- (2) Lodging
- (3) Additional clothing
- (4) Transportation

- b. Logistics needed to **support response.**

- (1) Adequate communications
- (2) Command post - Establish command post in location to support response.
Command post must be adequate in size to support the anticipated number of personnel.
- (3) Air support (overflights)
 - (a) Coast Guard and Auxiliary
 - (b) Other agencies
 - (c) Private sources

10. **Local impacts.**

- a. Threat to public health and safety
- b. Impact on water intakes
 - (1) Drinking water
 - (2) Industrial
- c. Transportation of fresh water supply

11. **Funding** issues.

- a. OSC access to CERCLA Fund
- b. PRFAs for other agency support
- b. Vendors - BOA policy

12. **Volunteers.**

13. Fish, wildlife and habitat **protection and mitigation** of damage.

14. Ensure coordination with **natural resource damage assessment** personnel.

CONTAINMENT

Each hazardous substance release is different and may require extensive research to determine appropriate containment and cleanup methods. If it is determined that the released substance poses a threat to public health or welfare or the environment, containment and removal actions should be taken, the following factors should be considered:

1. **Strategy.**
 - a. Offshore considerations
 - b. Nearshore considerations
 - c. Shoreline considerations
 - d. Inland considerations
 - e. Sensitive areas
2. **Staging areas.**
3. **Integrated cleanup system.**
 - a. Containment (berms, dikes, overpacking, etc)
 - b. Recovery of spilled product and contaminated debris (test for components of recovered product)
 - c. Temporary storage (RCRA permit)
 - d. Transport of collected material for disposal (RCRA permit)
4. **Monitor migration** of released substance.
 - a. Overflights
 - b. Computer modeling/trajectories
 - c. Continue to monitor proximity of release to sensitive areas
5. **Use of chemicals** and other materials to retard spread of released substance or to mitigate its effects.
6. Set aside areas for **research** purposes and countermeasure effectiveness determination.
7. **Monitor** and refine cleanup strategies.
8. Develop criteria/guidance for **terminating emergency phase**. Seek and use input from:
 - a. Unified Command (OSC, State, Responsible Party, etc.)
 - b. SSC, Federal, State and local scientific community including trustees
 - c. RRT

TAB c TO APPENDIX III TO ANNEX E TO THE CHARLESTON OIL & HAZMAT ACP
MARINE FIRE FIGHTING STRATEGIES

Reference: (a) Ports of Charleston and Georgetown Marine Fire Fighting Contingency Plan

PORT ENTRY AND MOVEMENT OF A BURNING VESSEL

The decision to allow a burning vessel to enter or be moved within the port can be difficult one for the COTP. Various scenarios should be planned to consider the possible outcomes of that decision. The COTP should approach such a situation with the view that the overall safety and security of the port is the key factor. The possibility of a vessel sinking in a channel or spreading fire to other vessels or facilities must be evaluated. The port should not be jeopardized to save a single vessel if the risk is too great. Risk evaluation (and cost-benefit analyses where applicable) should be employed during the planning process. The primary considerations for allowing a burning vessel to enter into, or be moved within, the port are:

- a. Location and extent of fire;
- b. Class and amount of cargo involved;
- c. Possibility of explosion;
- d. Possibility of sinking/capsizing;
- e. Hazards to crew or other resources at present location;
- f. Weather forecast;
- g. Maneuverability of vessel (Is it a dead ship?);
- h. Effects on bridges that must be transited;
- i. Hazards to the environment; and
- j. Alternatives if the vessel is not allowed entry or movement.

1. ALLOWING ENTRY OR MOVEMENT OF THE VESSEL. Before entry or movement is permitted, the vessel should be examined (with other involved agencies, if possible) to determine its condition. Permission for entry or movement may generally be granted when:

- a. The fire is already contained or under control;
- b. There is little likelihood that the fire will spread;
- c. A greater possibility exists that the fire may be extinguished with equipment available in-port before secondary explosion or spread of fire; and
- d. All appropriate parties, including elected officials, have been consulted.

[NOTE: A request for entry into the port by a burning vessel under declaration of "force majeure" should be evaluated under the same previously listed criteria.]

2. ADDITIONAL CONSIDERATIONS PRIOR TO ENTRY OR MOVEMENT. Once the decision to permit entry or movement of the vessel has been made, consideration should be given to:

- a. A safety broadcast and Notice to Mariners;
- b. Ordering the movement of the vessels or cargo stored in the area to preclude their involvement; and
- c. Locating the vessel to facilitate the use of available resources in fire fighting.

3. LIABILITY FACTORS IN CONSIDERATIONS OF VESSEL ENTRY.

- a. The amounts and types of insurance held;
- b. Verification of coverage for liability for any oil pollution removal costs, as evidenced by a valid Certificate of Financial Responsibility (COFR);
- c. Liability insurance for possible damages caused to other property; and
- d. A surety bond, in an amount equal to the estimated cost of removing the vessel from the port.

[NOTE]: While these assurances are highly desirable, obtaining them may not be possible before action is required to save the vessel.]

4. CONSIDERATIONS FOR DENYING ENTRY OR MOVEMENT.

- a. A DANGER, GREATER THAN THE IMMEDIATE DANGER TO THE VESSEL, OR cargo, that the fire will spread to other port facilities or vessels;
- b. A likelihood of the vessel sinking or capsizing within a navigable channel;
- c. A likelihood that the vessel may be abandoned as a derelict;
- d. Unfavorable weather or environmental conditions that preclude the safe movement of the vessel or fire fighting efforts; and
- e. The risk of a serious pollution incident of oil or hazardous substances. The COTP should, in conjunction with district(m) staff and the Regional Response Team(RRT), assess pollution risks and determine whether a vessel should be allowed to enter port.

FIRE FIGHTING ON VESSELS

1. IMPORTANCE OF VESSEL LOCATION. The success or failure of shipboard fire fighting efforts is a condition of the vessel's location; if the vessel is remotely located or otherwise inaccessible, there may be little opportunity to save it. The COTP should coordinate with fire department, ports officials, and other involved agencies to pre-select moorage, anchoring, or grounding sites for burning vessels.
2. CONSIDERATIONS FOR MOORAGE LOCATIONS.
 - a. The flammability of pier structures and contiguous facilities;
 - b. Availability of adequate water supply;
 - c. Access for response boats and vehicles;
 - d. Minimizing the risk of impeding navigation;
 - e. Location of low risk to facilities or vessels, consistent with minimizing the distance the vessel must be moved.
3. CONSIDERATIONS FOR ANCHORING OR GROUNDING LOCATIONS.
 - a. Bottom material and information should not pose an undue risk of rupturing the vessel's hull
 - b. Water depth should be shallow enough that the vessel will not sink below the main deck level, yet deep enough that fireboats, salvage barges and tugs can approach; and
 - c. Environmental conditions: strong winds or currents may hamper fire fighting, salvage or other response efforts. Tidal influences and river level fluctuations must also be considered.
 - d. Intentional Sinking Of Vessels. As a last resort when a vessel and its cargo are deemed to be constructive total loss due to a fire, an alternative to further fire fighting and salvage efforts may be to sink the vessel. Transportation and disposal of vessels must be accomplished in accordance with COMDTINST 16451.5 series, which provides guidance concerning the Intervention on the High Seas Act (IHSA), and 40 CFR 229.3, which outlines authorities and general procedures. Except in extreme emergencies when vessel disposal is contemplated as variable option, the vessel's flag state, EPA Regional Response Team (RRT) Representative, and other parties known to have interest that may be affected should be consulted.

OPERATIONAL FIRE FIGHTING PRIORITIES.

1. **RESCUE.** Life safety must always be the first consideration in any fire emergency situation. When lives are in danger, the incident commander must quickly assess whether the situation necessitates immediate removal of personnel, the number of persons that need to be extracted, and the hazards to the rescue team.
2. **EXPOSURES.** The fire should be fought so as to prevent the spread of fire on or off the vessel. Typical exposures include flammable liquid or gas tanks, open stairways, explosives or any substances that would accelerate or aid the spread of the fire. Provided there is no danger of water reactivity, exposures are best cooled by application of a fog pattern until no visible steam is generated. For some two-dimensional surfaces foam may be an appropriate agent for exposure protect.
3. **CONFINEMENT.** The effort to establish control over the fire through impeding the fire's extension to non-involved areas and limited the fire to its area of origin. To accomplish proper containment, all closures and generally all ventilation (unless personnel are trapped inside the space) should be secured. Establish primary fire, smoke, and flooding boundaries. Primary boundaries are critical to the control of a fire. Monitor and cool the boundaries, as necessary (if steam is produced when sprayed with a fog pattern, continue to cool the surface), on all six sides of the fire (fore, aft, port, starboard, above, and below).
4. **EXTINGUISHMENT.** Attack and suppression of the main body of the fire. The goal is to cease combustion by disrupting the cycle of the fire tetrahedron. Tactics and agents to be used will be determined by the fuel source, amount of fuel/surface area, and the location of fire.
5. **OVERHAUL.** Actions to complete incident stabilization and begin the shift to property conservation. Considerations during overhaul include: hazards from structural conditions at the fire scene, Atmosphere conditions (air packs should remain mandatory in the case of interior fire overhaul due to the likely presence of toxic vapors, carbon monoxide, and low oxygen levels), monitor scene to ensure the fire will not re-ignite, determination of the fire's point of origin and source of ignition. Detailed photographic records of the fire scene prior to cleaning any debris is highly recommended to aid in post fire investigations.
6. **VENTILATION.** Ventilation tactics will vary depending upon the location and conditions of the fire. The choice to secure or utilize ventilation will alter the tactics used to combat the fire. Generally, all ventilation on a vessel will initially be secured and all dampeners shut upon receipt of a fire alarm. The purpose in ventilation shutdown is both to decrease the flow of oxygen to the fire area and to begin the containment process. However, this tactic may cause a fire to extend through cableways, false overheads, plumbing, etc. Utilization of ventilation to aid firefighting efforts should not begin until a coordinated attack is staged. For example, ventilation can be used to aid fire fighters in gaining access to and prevent the travel of smoke and other fire gases from the involved spaces(s) by turning exhaust fans on high and supply fans on low, meanwhile ventilation in spaces surrounding the fire should be positively pressurized with supply fans on high and exhaust fans secured. However, improper use of this method could also result in backdraft conditions.

VESSEL STABILITY CONSIDERATIONS.

1. INTRODUCTION. The stability of a vessel is described as its ability to resist heeling from the upright position at small angles of inclination. The large volumes of water often used combating fires can have a negative impact on vessel stability, jeopardizing the safety of the vessel and the personnel on board.
2. CONSULTING PERSONNEL. The COTP or his designee may be expected to provide advice regarding vessel stability issues and should also be complied as part of the marine fire fighting contingency plan. This list should include the Coast Guard Marine Safety Center Salvage Team, which is always available to provide technical on stability issues. At a minimum, Coast Guard personnel who are likely to respond incidents where stability of a vessel is at issue should be familiar with NFPA 1405 and Stability And Trim For The Ship's Officer, by John La Dage and Lee Van Germert, published by Cornell Maritimes Press.
3. FIRE FIGHTING FACTORS AFFECTING VESSEL STABILITY. The introduction of large amounts of water onto the vessel can create a free surface effect that is particularly dangerous if the water is confined above the vessel's normal center of gravity. Personnel and equipment moving through watertight doors cause potential problems by disrupting flooding boundaries
4. STABILITY AFFECTS ON FIRE FIGHTING. The most important consideration regarding vessel stability is the control of a vessel's list. Problems resulting from a failure to maintain a reasonable degree of transverse stability can include:
 - a. Poor footing for response personnel;
 - b. Difficulty in maintaining a foam blanket;
 - c. Automatic fire door closure problems;
 - d. Damage/injury from shifting of loose objects;
 - e. Reduced effectiveness of fixed dewatering suctions and drains; and
 - f. Loss of use of vessel machinery due to sustained excessive list.
5. VESSEL FACTORS AFFECTING STABILITY.
 - a. The free surface of all liquids on board;
 - b. The integrity of the hull;
 - c. Whether the double bottoms are empty or full;
 - d. Integrity of watertight boundaries during flooding; and
 - e. Flatness of the hull bottom if the vessel is in contact with the bottom.

6. VESSEL DOCUMENTATION. Several vessel documents can be useful in determining vessel stability. The most important of these is the vessel's trim and stability booklet. Other useful documents are the cargo plan, the docking plan, the capacity plan, and the general arrangement plan. If this information is for some reason not available on board the vessel, it should be available from the vessel's owner or operator. Ideally, Coast Guard and/or local fire fighters would maintain copies of the pre-fire plan for those vessels that regularly call at their port. Note that per 33 CFR 155.240, owners and operator of oil tankers and offshore oil barges shall ensure by no later than January 21, 1995, that the vessel plans necessary to perform salvage, stability, and residual hull strength assessments are maintained at a shore-based location. Access to the plans must be available 24 hours a day.

7. WATER DISCIPLINE. Water is the most prevalent fire extinguishing agent. Water suppresses fire through absorbing heat when converted into steam and the resulting smothering effect as steam displaces the air around the fire. In general, 0.03m^3 (1ft^3) of water will generate 48m^3 (1700ft^3) in practice). The indiscriminate use of water, however, particularly in vessel fires, can be as dangerous as the fire. In considering the use of water reactive materials, and the problems of flooding and the resulting stability issues must be answered before proceeding.

At best, undisciplined water usage may precipitate excessive water damage and disrupt the thermal balance of interior fire resulting in reduced visibility and severe heat conditions from the production of large amounts of steam. The thermal balance is the discernible separation between the heated fire gases in the upper portion of a compartment and the relatively cooler air below. The heated gases may exceed 704°C (1300°F). Disruption of the thermal balance can be avoided for as long as possible by proper application of direct and indirect techniques. In the worst case, disregard for the amount of water put on board will deteriorate the vessel's stability. Four liters (1 gal) of sea water weighs 3.9kg (8.6lbs); at a flow rate of 6 liters/second (L/s) or 100 GPM, a 1m^2 (12ft^2) space will be flooded 0.152m (6in) in roughly 5 minutes, adding approximately 2 metric tons (2tons). A 64mm (2in) hose, which is commonly found on vessel weather decks, delivering 2L's(250 GPM), equates to approximately 54 metric tons (60 tons) per hour, while the 38mm (1in) hose normally found at interior fire stations will deliver approximately 27 metric tons (30 tons) per hour.

8. DEWATERING. A vessel will sustain a loss of stability from fire fighting water accumulation above the vessel's original water line. For this reason, dewatering is an essential planning issue for successful vessel fire fighting. Normally, vessels will have a limited amount of dewatering equipment. This equipment will often consist of a fixed pump and suction system to handle water which accumulates in the vessel's bilge and grain holes located in areas above the waterline to allow drainage overboard or into vessel's bilge. Portable pumps are sometimes available on board, but their limited capability will not substantially aid dewatering efforts. Removal of toilets and showers to improve drainage will allow water to flow down into holding tanks below the waterline. While the weight of the water is still a factor, the shift in weight to the holding tanks will lower the vessel's center of gravity and improve transverse stability. In extreme cases, drainage holes may be cut in the superstructure. This practice, however, can be extremely dangerous and should not be pursued without the permission of the owner or other appropriate authority. In planning for the eventuality of a dewatering effort, Annex M must give consideration to the quality of discharged water and the need for containment

9. **LIST CORRECTION.** The basic causes of list are a negative metacentric height (GM), or "angle of loll", which is caused by having the center of gravity too high in the vessel, and/or an off center position of the vessel's center of gravity (CG). When in doubt as to the cause of the list, always attempt to lower the vessel's center of gravity. The following outlines a general sequence of actions to limit deterioration and potentially improve vessel stability.

- a. Establish flooding boundaries;
- b. Remove water from partially flooded areas;
- c. Jettison topside weight;
- d. Completely remove water from solidly flooded areas;
- e. Transfer weight (usually liquid ballast). If the list is caused by a location of the center of gravity off the vessel's centerline, shifting weight to the high side will remove the list, however, if negative GM is a factor of the list, transverse shifting of weight within vessel will worsen the situation. In a case in which the center of gravity is located above the metacentric height, the center of gravity must be lowered to correct the list.
- f. Add weight (counter-flooding). Always start with lowest spaces available, such as double bottom tanks. Never counter-flood if free surface is the cause of the list. Problems resulting from added weight and free surface effect make counter-flooding a last resort.

FIXED FIRE FIGHTING SYSTEMS.

1. **FIRE MAIN SYSTEMS.** The fire main system is the primary tool for defending the vessel from the fire. There are two basic designs of fire main systems, the single main and the looped main. The looped main has certain advantages due to the ability to isolate sections of the system without disrupting services to the stations beyond the ruptured section. Water pressure is provided by on board fire pumps. The number of pumps will depend upon the vessel's tonnage; general a vessel will have two pumps, a primary pump dedicated to supplying the fire main and a reserve pump that may also supply the sanitary, ballast, bilge, or general service system.

Any pump which supplies a fire main must be capable of supplying 345 kilopascals (kPA) (50 psi) (517kPA (75psi) for tank vessels) streams simultaneously to the two stations with the highest pressure drops. The pumps require electrical power, but are tied into the vessel's emergency as well primary ship service generators. The fire stations, or hydrants supplied by the fire main will be of sufficient number and so located that any part of the vessel can be reached with two streams of water from separate stations with at least one stream through a single length of hose supplied from separate hydrants. Local response agencies should be aware that hose station connections on foreign vessel will likely have a different thread and that generally adapters will not be available. Therefore, if the decision is made to utilized the International Shore Connection (see E.5, P8-24), and the vessel's fire main, fire fighters will be forced to rely on equipment which may be unfamiliar possibly poorly maintained.

2. WATER SPRINKLER SYSTEMS. Due to construction in accordance with Method I of the Safety Of Life At Sea (SOLAS) convention, which provides for fire protection through noncombustible construction materials, sprinkler systems are not widely used on U.S. Merchant vessels in other than accommodation spaces and Roll-On/Roll-Off vehicle decks. The primary roles of the sprinkler system are structural protection and to maintain escape routes. Sprinklers are two varieties, automatic (wet pipe) and manual (non-detection, deluge). Automatic systems are maintained under pressure and are activated by a fusible link in the sprinkler head while the more common manual systems have open valve assembly and are supplied directly by ship's fire main. An important note is that both systems require power for the associated pumps to supply operating pressure, although the automatic system relies upon a pressure tank for its initial dump of about 757 liters at 103 kPa (200 gallons at 15 psi). The required power source should be available from the vessel's emergency generator if the ship's service generator is unavailable. Hazards associated with sprinkler systems are the possibility of flooding, and its effect on stability.

3. CARBON DIOXIDE SYSTEMS: Carbon Dioxide is a versatile extinguishing agent as it does not damage cargo, does not conduct electricity, and provides its own pressure for discharge. However, CO₂ is only effective if all ventilation and openings to the space are secured.

As a smothering agent, CO₂ lacks any considerable cooling properties, therefore the carbon dioxide concentration in the space must be maintained until heat levels in the fire area drop below the ignition temperature of fuel source. Additionally, CO₂ poses a significant life threat due to its ability to displace oxygen, causing asphyxiation, even in low concentrations. CO₂ systems are primarily installed in machinery spaces and cargo holds. Discharge is accomplished manually; either remotely by two pull handles outside the affected compartment or by directing the discharge point from the CO₂ bottle (high-pressure system)/storage tank (low-pressure system) room. Due to the life threat and variable discharge points, it is recommended that the vessel's plans are reviewed and/or preferably a member of the vessel's crew, knowledgeable about the system, be consulted prior to its operation.

4. HALON 1301 SYSTEMS. Halon (bromotrifluoromethane) is a colorless and odorless gas, approved by the U.S. Coast Guard for use in machinery space fixed systems on merchant vessels. Halon 1301 has extinguishing properties similar to carbon dioxide: it is a nonconductor, very effective against class B and C (Halon 1301 can be used to extinguish class A fires provided the fire is not deep seated), leaves no residue, is stored as a liquid in cylinders, and does not require an external power source for discharge. Fixed Halon 1301 systems require manual activation through two pull boxes located outside the protected space or from the bottle storage space. An evacuation alarm will precede the discharge. Inhalation of Halon will cause dizziness and impair coordination. Also, under exposure to open flame at around 500°C (900°F), Halon 1301 will decompose into a gas that is toxic. The toxicity from decomposition is prevented by the high rate of delivery that acts to rapidly extinguish the flames.

5. FOAM SYSTEMS. Foam is primarily used to combat flammable liquid (class B) fires. Although foam does possess some cooling properties is a smothering agent. Foam is traditionally available in two varieties, chemical and mechanical. Shipboard installation of chemical foam systems is, however, no longer approved by the Coast Guard. Mechanical foam is produced by mixing a foam concentrate with water and then rapidly aerating the resultant solution. The ratio

of water to foam concentrate determines the expansion ratio and, therefore, the physical properties of the foam.

Foam with a low expansion ratio will be wetter, heavier, more heat resistant (provides a longer lasting blanket), and less affected by wind. These properties, however, also make low expansion foam less adherent to vertical surfaces and more electrically conductive. A lower expansion ratio will also provide better flow around obstructions, making this mixture well suited for service in class B machinery space and tank vessel deck fires. Fixed deck foam systems must be installed on tankers constructed after 1 JAN 1970.

6. STEAM SMOTHERING SYSTEMS. The steam is supplied by the ship's main or auxiliary boilers for use in cargo tanks/holds, pump rooms and bilge fire suppression. This system may be present on some older vessels, however, steam smothering cannot be installed on any US flag vessel contracted after 1 JAN 1962 and is generally no longer an accepted method of shipboard fire suppression. Other than the heat hazard for personnel, the use of steam as a smothering agent can easily hinder fire fighting efforts rather than help. By its nature steam has very little cooling effect and is often a high enough temperature to ignite some liquid fuels. Also as steam cools, it condenses, reducing the smothering effect. It is also important to note that application of steam smothering to fires involved with nitrates, sulfates, and explosives will have disastrous effects.

INTERNATIONAL SHORE CONNECTION.

1. INTRODUCTION. The International Convention for the safety of Life at Sea (SOLAS), 1974, as amended, requires an "international shore connection" to be carried on board all passenger and cargo vessels over 500 gross tons subject to SOLAS and U.S. inspected vessels of 1000 gross tons or more. This universal coupling, as illustrated and described in 46 CFR 162.034, is designed to connect fire main systems between one vessel and another or between a shore facility and a vessel. The connection shall be constructed of material suitable for 1034 kPa (150 psi) service; it shall have a flat-face flange on one side, and a permanently attached coupling that will fit the vessel's fire main piping and hoses on the other side. The flange can be fitted with a gasket and bolted quickly, enabling an assisting vessel or facility to provide fire main pressure to a distressed vessel.

2. COAST GUARD ENFORCEMENT. The Coast Guard is responsible for U.S. implementation of these requirements. COTP's shall ensure that international shore connections are carried on board vessels in U.S. ports as required. COTP's should encourage facility operators, municipal fire departments, and other interested response organizations to obtain these couplings and have them readily accessible.

GENERAL TACTICS FOR COMMON VESSEL SPACES.

1. INTRODUCTION. A shipboard fire will present the unprepared fire fighter with an endless variety of difficulties. To ensure the readiness of the port, the COTP must have full confidence in not only the Coast Guard members in the command, but also in the knowledge and abilities of the local response services responsible for that port. One of the easiest and most beneficial steps in accomplishing this is to encourage the local fire department to periodically accompany Coast Guard marine inspectors on vessel inspections. In this way fire fighters can become acquainted with the construction, layout, organization, and available fire fighting apparatus on board a variety of merchant vessels. These visits will allow fire fighters to conduct a pre-planning fire survey. If a single survey can be conducted for each vessel that makes regular port calls, the survey can then be distributed as necessary to other fire fighters.

2. PUBLIC AND ACCOMMODATION SPACES. By the nature of their use, the first concern in responding to a fire in accommodation spaces is the rescue of victims. The National Fire Protection Association (NFPA) describes a fire in these spaces as being very similar to shore side structural fires. While this description is accurate, it can also be misleading. The vessel's steel construction, below deck locations, and a high content of synthetic materials will raise heat levels dramatically compared to a shore side structural fire. Fire-fighting efforts will likely be additionally complicated by access and egress problems and difficulty in effective utilization of ventilation techniques. Extinguishment and overhaul of accommodation space fires can also be problematic due to the threat of fire extension through cableways, false overheads and other void spaces.

3. ENGINE ROOM AND MACHINERY SPACES. The engine room refers to the space in which the vessel's propulsion engine is located and machinery spaces refer to the location of the auxiliary systems necessary for the vessel to function. This machinery includes systems such as hydraulics, sewage, fuel and lube oil, compressed air, and steam systems, as well as the machinery which provide electricity, and hotel services. A fire in these spaces is easily the most difficult to control and extinguish. Access to an engine room/machinery space fire can be complicated by a maze of catwalks, decks, and gratings that may be slick with petroleum products and will hinder hose line advancement. The variety and size of machinery spaces can make rescue operations difficult. While the vessel's fire plan should be consulted, the vessel's engineering department can provide invaluable information of the access, layout, and obstructions that are present in these spaces. Before attempting to attack an engine room fire, verify that all personnel have been evacuated from the space, that the emergency equipment shutdowns have been utilized, and that the ventilation, power, and watertight doors to the space have been shutdown.

With these steps completed, utilize the spaces' fixed system. If the resources are available, multiple dumps of extinguishing agent may be required before the fire can be controlled. Reentry to the space following the use of fixed system must not take place until the space has had time to cool. The amount of time necessary of cooling to effectively take place will vary with the size and intensity of the fire. Prior to reentry, automatic watertight doors should be set to manual to prevent possible personnel injury and serving of the line. The point of reentry should be the lowest possible access point to allow fire fighters improved visibility and reduced heat conditions. Should entry from above the fire level prove necessary, ventilation should

remain secured until the fire is extinguished to prevent pulling the fire up to fire fighters as they enter the space.

SPECIAL CONSIDERATIONS ACCORDING TO VESSEL TYPE

1. FREIGHT VESSELS.

a. Introduction. Freight vessel cargo holds come in four basic type: dry bulk, break bulk, roll-on/roll-off (Ro/Ro), and container. Each of these present particular hazards to the fire fighter. In general, as with any fire situation, it is very important to know what is burning. This is doubly true of cargo vessels due to the possible variety of goods on board with different characteristics and reactive properties.

To determine what cargo is on board and where it is located, the vessel's Cargo Manifest and especially the Dangerous Cargo Manifest, should be reviewed. If possible, the review should be done in consultation with the vessel's master. Until the decision is made as to the best method of extinguishment, identification of a cargo off-loading site, and overhaul and disposal procedures are set, the hold should be sealed and the fixed fire suppression system should be activated. If the fixed system is activated, bulkheads temperatures should be monitored hourly to track progress. Because any attempt to enter the hold after fixed system activation will introduce air into the fire area and allow escape of the extinguishing agent, the most important factor in utilizing a fixed system in this situation is the having the patience to allow the agent time to take effect.

b. Dry Bulk. Dry bulk holds generally contain goods such as grain, coal, ore, scrap metal, or other particulate matter loaded directly into a hold without packaging; much like liquid in a tanker. The danger associated with a hold full of grain is similar to that of a silo: spontaneous combustion, dust explosions, and product expansion with the addition of water. A hold containing coal may require cargo discharge to extinguish the fire. Coal that is heating spontaneously should be leveled, trimmed, and packed down tightly in the hold to minimize the chance of fire. Scrap metal cargoes will probably require that the hold be sealed and inherited while cooling exposures.

c. Break Bulk. Break bulk is loaded into a vessel's hold as packaged goods in crates, bags, or barrels, etc. The cargo can be supported and separated by dunnage (wood palates, etc.), which will present additional class A fire hazards. Cargo on break bulk vessels is most commonly loaded vertically into the holds by cranes through a series of large hatches. As subsequent holds are loaded, it is common for cargo to be placed on the hatch to lower hold. Access to the lower holds can be difficult in these situations, often leaving scuttles and steep ladders as the only method of entry. For this reason, use of the installed fixed system is often the best course of action until a coordinated attack can be make. To aid in preventing the spread of the fire, cargo in holds with adjacent bulkheads should be moved away from the affected hold and the bulkheads should be cooled as necessary.

d. Container. Containers provide uniform modular handling of packaged and liquid goods. Containers may be stacked on deck or stored in holds. Due to the often large number of containers and the manner of stowage, access to a specific container can be difficult. In order to complete extinguishment and overhaul of the fire, it is best if the container can be removed from the vessel once the fire can be controlled. Both the affected container and those surrounding it need to be externally cooled. If the container is on deck, control of the fire inside a container is often best achieved by determining the required agent for the contents and applying the agent through a small hole high on the side closest to the hottest point. The recommended procedure if the container is in a hold is basically the same, unless the container cannot be reached, in which case the hold should be buttoned up and the fixed system dumped.

e. Roll-on/Roll-off (Ro/Ro). Ro/Ro vessels are generally comprised of several parking garage-like decks designed to maximize the storage of motor vehicles. The hull on some Ro/Ro vessels have a very high freeboard; this height can be sufficient to cause complications in the staging of operations and equipment on the vessel. Access to the cargo decks can often best be established through side ports and cargo loading rams. Close storage of cargo will likely cause difficulty in accessing a particular area or unit of cargo. If possible, it is generally best to employ the fixed system (usually a sprinkler or CO2 system) in the cargo deck until the fire area can be accessed for a direct attack.

f. Commercial Fishing Vessels. Fishing vessels comprise a specialized sub-type of freight vessel; which includes trawlers, fish tender, and fish processing vessels. The arrangement of the holds and stowage of catch/cargo often bare similarities to a small break bulk or dry bulk vessel. The hazards associated with these vessels are also similar to other freight vessels often with an addition of a large refrigeration system used to preserve the cargo. The use of a refrigeration system can hold potential hazards to responders due to the use of anhydrous ammonia (NH₃) as the primary refrigerant. Exposure to anhydrous ammonia in its liquid state will cause severe burns on contact, and in a gaseous state possesses properties which cause severe irritation eyes, skin, and mucous membrane as well as possibly causing fatal respiratory damage.

Other than exposure hazards for fire fighters, a release of anhydrous ammonia in an enclosed space introduces the possibility of a combustion explosion. Although characterized as having a limited flammability and low heat of combustion, in a fire scenario, enough pressure can be developed to cause major structural damage.

2. BULK LIQUID TANK VESSELS.

a. Introduction. Today's tank vessels are capable of transporting large quantities of liquid products. Tank vessels can be divided into three categories: petroleum carriers, liquefied gas carriers, and chemical carriers. It is not uncommon for a tank vessel to carry a variety of liquids in its segregated tanks. Deck fires on tankers are one of the most common vessel fire scenarios. These fires usually result from over filling tanks or the spillage of product onto the deck or from leak or rupture of the piping system. The practice of plugging scuppers during cargo operations will often help to contain a spill to the deck of the vessel. The presence of on deck cargo piping systems will hinder the advancement of fire fighting operations. The key to control and extinguishment in deck fire situations is to reduce/remove the fuel source by shutting down the cargo system. System shutdown is best accomplished when performed by personnel

knowledgeable about the system's operation. Fire fighters should take care to preserve the integrity of the tanks and cargo piping system.

b. Petroleum. For petroleum on deck, the best course of action is to employ foam, provided sufficient quantities are available to contain an unbroken blanket over the entire surface of the exposed product. If feasible, the placement of fire resistant containment booms around the vessel would be prudent. It is also important to note that under 33 CFR 155.1050 and 33 CFR 155.1052, vessel response plans, required for vessels which carry group I-V petroleum oils, must identify and ensure the availability of both a salvage company with expertise and equipment, and a company with vessel fire fighting capabilities in the area(s) which the vessel operates. The availability of these pre-planned resources should not be overlooked during a marine fire-fighting scenario.

c. Liquid Natural Gas (LNG)/Liquid Propane Gas (LPG). Natural gas and Propane gas are the two most common liquefied flammable gases. For transport, these gases are liquefied through a cryogenic process.

This process results in a significant volume reduction (by a factor of 600 for natural gas and a factor 270 for propane gas). The vessels that transport these gases generally utilize large insulated spherical tanks for product storage. The tanks are isolated within the vessel's hull by cofferdams designed to contain low volume leakage from the tanks. Despite differences in physical characteristics, when ignited, the effective methods of extinguishment are similar. Vessels which carry LNG/LPG are fitted with deck water spray systems. The spray system is intended primarily for the protection of exposures (vessel superstructure, storage tanks, and cargo system) from the extreme radiant heat produced by natural and propane gas fires. The spray system will also aid in confinement of the fire area, protection of metal surfaces from embrittlement fractures caused by contact with cryogenic liquids, and the dissipation of unignited vapor. In addition to the spray system most gas carriers will be fitted with a dry chemical system with sufficient agent to protect the weather deck. In the event that hose lines are brought to bear on the fire, high velocity fog may be employed to disperse unignited vapor, but the high velocity fog pattern should never be used directly on the liquid as it will only serve to vaporize the liquid. In ports that handle LNG and LPG tankers, the COTP is required to maintain LNG/LPG Vessel Management and Emergency Contingency plans, these plans should be consulted for area specific guidance in handling these vessels.

d. Chemical. The bulk transport of liquid chemicals has become one of the major commodities shipped by water. Because many chemicals possess characteristics which could endanger responders, proper identification of the hazards present is the key to responding to any chemical or hazardous material incident.; Although the Coast Guard sets guidelines for the bulk shipment of chemicals, the potential dangers of chemicals mixing on a multi-product tanker cannot be overstated. A response strategy cannot be formulated before issues of toxicity, volatility, and reactivity (especially to water and other fire fighting agents) are resolved. Clearly, the integrity of the tanks and cargo system must be maintained. In some instances, it may be prudent to employ the available fixed systems rather than risk the safety of responders in a direct attack upon the fire. The Incident Commander must also evaluate the necessity to evacuate the scene and surrounding area due to the existence or potential threat of plume development.

3. PASSENGER VESSELS.

a. Introduction. Fire fighting operations on passenger vessels can be extremely difficult. Public and accommodation spaces on passenger vessels will often present a higher fire load than other vessels because of the quantity of synthetic materials used to enhance the vessel's appearance. Another result of these cosmetic enhancements will be the existence of many void spaces and probably a complex ventilation system that will contribute to the spread of fire and smoke. Large passenger vessels, such as cruise ships, are constructed with a large number of small compartments connected by narrow passageways and ladders. The layout of many of these vessels all but ensures that the Incident Commander, even with the benefit of pre-fire planning, will be faced with manpower shortages as fire fighters become fatigued and air supplies are exhausted in efforts to locate and extract victims, and then access and extinguish the fire.

b. Special Planning. The COTP's shall work with the passenger vessel industry, the port authority, and local response and relief agencies operation in their respective zones or AOR's to ensure the coordination of these parties for the evacuation of and accountability for the vessel's passengers in the event of fire or other emergency. An accurate account of persons both ashore and aboard the vessel is critical in expediting the pace and aiding to ensure successful fire fighting and rescue operations. The sooner search and rescue is completed the sooner efforts can be focused upon property conservation. The displacement of up to several hundred passengers will require pre-planning for lodging, medical attention, meals, transportation, and communications. While these factors are principally the concern of the industry, the COTP has a vested interest in ensuring these factors have been addressed within the port.

TRAINING

1. INTRODUCTION. Proper training is essential for Coast Guard personnel and municipal fire department personnel who respond to waterfront and vessel fires. Ideally, Coast Guard personnel who support or interact with municipal fire departments should be as well trained as the most minimally trained personnel with whom they will interact (including local fire fighters and crewmembers of merchant vessels.)

Although the training programs envisioned here will not make Coast Guard men and women professional fire fighters, but it will help them understand their capabilities and limitations, as well as those of municipal fire departments. Training for Coast Guard personnel that support municipal fire departments in the event of waterfront or vessel fires is a multi-phased process. Training in accordance with Fire Fighter Level I specified in NFPA Standard 1001, Standard for Fire Fighter Professional Qualifications, will provide comprehensive basic fire fighting training. This standard is available from the National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02269. Coast Guard personnel shall have knowledge of the municipal fire department organization and capabilities. Frequent exercises between the Coast Guard, municipal fire departments and other concerned agencies should be conducted to help involve each party to understand roles, responsibilities, capabilities and limitations of all concerned.

2. NFPA STANDARD TRAINING. A nationally recognized and certified training program that meets or exceeds NFPA 1001 standards for entry level professional fire fighters should be

used. Many fire departments can provide this training locally. This avenue of training should be explored carefully, considering the cost and the benefits of being trained by the organization that will likely request Coast Guard support. This level of training provides:

- a. Basic fire science;
- b. Fire inspection requirements;
- c. Safety, first aid and rescue techniques; and
- d. Concepts and hands-on experience in the use of breathing apparatus, ropes, fire appliances, sprinkler systems, water streams, ventilation techniques, and communications during fire fighting operations.

3. FOLLOW-UP TRAINING. Follow up training broadens the basic knowledge obtained through NFPA Standard 1001 and applies it to situations on board vessels. The Coast Guard generally sends field personnel to the Advanced Marine Fire Fighting Course offered by Texas A&M University, College Station, TX for unit personnel who may be designated as Marine Fire Fighting Coordinators.

This course consists of classroom and fireground exercises designed to familiarize mariners with the chemistry and physics of fire, shipboard fire fighting agents and equipment, fixed extinguishing and detection systems, breathing apparatus, considerations for hazardous cargoes, fire prevention, shipboard search and rescue, and first aid. The fireground exercises provide an opportunity to use common shipboard equipment in fighting various types of fires. [NOTE: The Damage Control and Fire Fighting courses offered by the U.S. Navy do not address structural fire fighting problems; they are not acceptable alternatives to NFPA Standard 1001 or follow-up training.]

NFPA 1405, A GUIDE FOR LAND-BASED FIRE FIGHTERS WHO RESPOND TO MARINE VESSEL FIRES.

1. INTRODUCTION. The National Fire Protection Association developed NFPA 1405 at the request of, and in cooperation with, the United States Coast Guard and with the assistance of the fire service and maritime communities. The Coast Guard provided representatives to the Subcommittee for Land-Based Fire Fighters Who Fight Marine Vessel Fires.
2. PURPOSE. NFPA 1405 was developed for use by local fire fighting organizations that may be confronted with a fire aboard a vessel. This publication identifies the elements required to formulate a comprehensive marine fire fighting response program. NFPA 1405 discusses vessel familiarization, training, response techniques, contingency planning, and the hazards a fire fighter may face in combating a vessel fire. The guide also recommends practices to use in responding to fire in the maritime environment. NFPA 1405 provides an excellent resource of information that will aid fire fighters to safely and efficie